Exhibit 14.23

United States' Motion to Enter Consent Decree,
United States v. Alden Leeds, Inc. et al., Civil Action No. 22-7326 (D.N.J.)

EXHIBIT B-6

Appendix B to OxyChem's Comments in Opposition to Proposed Consent Decree, *United States v. Alden Leeds, Inc., et al.*, Civil Action No. 2:22-cv-07326 (D.N.J.)

BBBCCC011

Remedial Investigation Report Chemical Waste Management of New Jersey, Inc.

Volume I

[redacted]

Prepared by:

QUALITY
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INTEGRITY
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CREATIVITY
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RESPONSIVENESS

RUST Environment & Infrastructure, Inc.
Bensalem, Pennsylvania

December, 1993

RUST ENVIRONMENT & INFRASTRUCTURE

Formerly SEC Donohue

"I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant penalties for knowingly submitting false, inaccurate or incomplete information, including fines and/or imprisonment, for violations."

Name Richard Sheehan **Signature** Richard J Sheehan
Company Name Rust Environment & Infrastructure **Date** 12/16/93

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for knowingly submitting false, inaccurate or incomplete information, including fines and/or imprisonment, for violations"

Name DOMINIC MARUCH **Signature** Dominic Maruch
Company Name CHEMICAL WASTE MANAGEMENT OF NJ, DC **Date** 12/17/93

NEWARK RIFS\CERTIFIC/alr

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EXECUTIVE SUMMARY

Chemical Waste Management of New Jersey, Inc. (CWMNJ) operates a RCRA Part B permitted Treatment, Storage and Disposal (TSD) facility located at 100 Lister Avenue, Newark, New Jersey. The property is located in an area of Newark that is commonly referred to as the Iron Bound Section. This colloquial designation reflects the historical land use throughout a large area which was originally developed for industrial manufacturing that has expanded and continued over the past 100 years. The area is zoned and intended for future industrial use which is consistent with and encouraged by the Newark Master Plan.

On July 21, 1992, CWMNJ entered into an Administrative Consent Order (ACO) with the New Jersey Department of Environmental Protection and Energy (NJDEPE) to perform a Remedial Investigation/Feasibility Study (RI/FS) at the Newark facility. As part of the RI, a work plan was prepared and submitted to NJDEPE on September 18, 1993. The Work Plan was subsequently modified in response to NJDEPE comments with final approval given by NJDEPE on April 5, 1993. The field investigation was performed between May and August 1993 in accordance with the sampling procedures, quality assurance/quality control and analytical protocols, and the health and safety plan specified in the RI Work Plan. This report presents the information that was acquired during the performance of the RI and the conclusions and recommendations that were derived from it.

Land use in the site area began during the late 1800's when the marshlands along the Passaic River were filled with a mixture of coal ash, construction debris and soil. Industrial manufacturing in the area began shortly thereafter. This type of land use has prevailed in the area up to the present day with former and current property uses being related primarily to the production of agricultural and industrial chemicals.

The long history of industrial land use has produced widespread environmental degradation through the Iron Bound Section of Newark. Ironically, this degradation probably began with the import of the fill material that was used to fill the marshlands. Site investigations at the

Diamond Shamrock and Hilton Davis properties as well as other areas of the Iron Bound Section identified semi-volatile organic compounds (semi-VOC's) in the surficial soils. This class of organic compounds is a by-product of the coal gasification process that produced the ash which was used as part of the fill material in the study area.

The CWMNJ Newark facility occupies 2.8 acres of land that is covered entirely by impervious surfaces consisting of secondarily contained storage, treatment, and processing areas, maintenance and office buildings, a laboratory, and paved areas. A number of major modifications have been performed at the facility in accordance with the provisions of the RCRA Part B permit.

The facility is located approximately 650 feet south of the Passaic River. The Hilton Davis company is located to the north-northeast, the Benjamin Moore Company to the east, Lister Avenue to the south, Duralac Chemical Company to the west, and the Diamond Shamrock, dioxin site to the north-northwest.

The RI focused on defining the nature and environmental quality of the surficial soil and groundwater zone in accordance with the stated objectives of the RI Work Plan.

The following activities were performed during the RI:

- Soil Sampling at 25 locations;
- The installation of three groundwater monitoring wells;
- Two rounds of groundwater sampling;
- Hydraulic conductivity testing;
- Groundwater level and tidal measurements;
- Analyses of all soil and groundwater samples for the Target Compound List/Target Analyte List (TCL/TAL) parameters; and,

- Analyses of selected soil samples for total organic carbon (TOC), pH, dioxin (two samples) and physical characteristics.

The investigation determined that the site is covered by a fill layer that is about six feet thick which is underlain by an organic silt layer (meadow mat) except in the southwest facility corner where it is absent. Historical test borings at the site and adjacent properties determined that the meadow mat is approximately six to seven feet thick and is underlain by about 90 feet of glaciofluvial deposits which are underlain by bedrock.

The surficial groundwater zone is found only a few feet below the ground surface in the fill material. The underlying meadow mat serves as an aquitard between the surficial groundwater zone and the lower zone in the glaciofluvial sands, except in the southwest property corner where there is direct communication between the two zones.

Groundwater is flowing from the east-southeast towards the CWMNJ Newark facility. However, a groundwater mound on the Diamond Shamrock property to the north coupled with the lowered phreatic surface in the southwest facility corner where the meadow mat is absent is directing the groundwater flow from north to south across the western half of the CWMNJ property.

Diurnal and tidal measurements, collected over a 46 hour period during the RI, did not indicate any tidal influence to the groundwater flow conditions at the CWMNJ Newark facility. The hydraulic head created by the Passaic River at high tide is not sufficient to impact the surficial water zone for any substantial distance from the river's edge. The site investigations at the Diamond Shamrock and Hilton Davis properties identified tidal influence only in the monitoring wells located adjacent to the river.

Both organic and inorganic compounds were detected in the soil and groundwater at the CWMNJ Newark facility. The principal compounds detected in the site soils were semi-VOC's, pesticides and trace metals. Dioxin was not detected in the site soils. The principal compounds detected

in the shallow groundwater zone were volatile organic compounds (VOC's), pesticides and trace metals. A comparison of the RI soil and groundwater data with background data at the Hilton Davis and Diamond Shamrock properties indicates that most of the compounds detected at the CWMNJ Newark facility were detected at similar or higher concentrations at the other two properties. In general, the organic and inorganic compounds identified at all of these properties reflects the long history of industrial manufacturing in the Newark Iron Bound Section and the quality of the fill material that was used to fill the area in the late 1800's.

The proposed NJDEPE soil cleanup criteria for several individual semi-VOC's, pesticides and trace metals were exceeded at some of soil sample locations. However, the soil criterion for total organic compounds was exceeded at only two soil sample locations. These locations, which are located approximately 30 feet apart, are near the 100 series tank farm in the southeast facility area. The total organic compound concentration at both sample locations was related almost entirely to pesticides.

The RI did not identify any organic or inorganic compounds in the site soils that could be directly attributed to any of the potential facility areas of concern that were identified in the RI Work Plan. The nature of the compounds that were detected and their random locations suggests that the material is related to pockets within the fill material that was placed across the site. At several sampling locations the primary compounds detected were semi-VOC's. These compounds are suspected to have been present in the fill material when it was placed throughout the area as a result of the origins of the material. Moreover, the sporadic occurrence of the various compounds is demonstrated by the substantial differences in concentrations and nature of the compounds at adjacent sample locations.

The NJDEPE groundwater quality standards for several individual VOC's, semi-VOC's pesticides and trace metals were exceeded in all of the monitoring wells to various extents. The most significant concentrations were detected in monitoring well MW-1 which is hydraulically upgradient from the facility. Monitoring well MW-2, which intercepts groundwater flowing

from a substantial portion of the facility, had only a few detections of organic and inorganic compounds.

The groundwater quality is clearly due to unknown off-site contamination sources and natural degradation to some extent, as demonstrated by the water quality in the upgradient monitoring well.

The proposed soil cleanup criteria are risk based criteria intended to provide a degree of uniformity to site cleanup decisions. However, the criteria do not recognize the actual site conditions and the extent to which potential exposure pathways exist.

The CWMNJ Newark facility has been completely covered with impervious surfaces for a number of years. Therefore, the risk from direct contact is minimized. These impervious surfaces also serve to prevent precipitation infiltration and any subsequent leaching of the unsaturated soil zone.

Groundwater use in the Iron Bound section has been historically related to industrial manufacturing. Potable water is provided by municipal systems that obtain the water from areas beyond the Iron Bound Section. Historically, the wells in the Newark area have been completed within the bedrock of the Brunswick Formation in order to obtain sufficient yield and water quality. Therefore, the groundwater quality in the shallow water zones in the study area does not pose a human health or environmental risk.

It is recommended that the CWMNJ Newark property should be deed restricted to limit any future land use to activities compatible with current conditions in the study area. The integrity of the impervious surfaces that cover the entire facility should be maintained. Any penetrations of the ground surface should be promptly repaired to maintain the integrity of impervious cover; and excavated materials should be handled and disposed of in accordance with the materials waste characterization consistent with the facility's current practices.

1.0 INTRODUCTION

Chemical Waste Management of New Jersey, Inc. (CWMNJ) has operated a RCRA Part B permitted Treatment, Storage and Disposal (TSD) facility in Newark, New Jersey since 1989. Hazardous waste operations were initiated at the site by SCA/Earthline in 1977. Chemical Waste Management (CWM) subsequently purchased SCA in 1984. Chemical Waste Management of New Jersey is a wholly owned subsidary of CWM which is 80 percent owned by WMX Technologies, Inc. The property has been used for a variety of industrial operations, primarily chemical manufacturing, since its development in the late 1800's.

On July 21, 1992, CWMNJ entered into an Administrative Consent Order (ACO) with the New Jersey Department of Environmental Protection and Energy (NJDEPE) to perform a Remedial Investigation/Feasibility Study (RI/FS). The purpose of the RI/FS was to determine the nature and extent of any potential environmental contamination and implement a remedial action, as necessary, at the Newark facility. Prior to initiating the RI, a Work Plan was prepared and submitted to NJDEPE on September 18, 1992. The Work Plan was subsequently modified in response to NJDEPE comments and the amended Work Plan was approved on April 5, 1993. The field investigation was conducted at the site between May and August 1993, in accordance with the approved Work Plan.

1.1 PURPOSE OF REPORT

This report presents the information that was acquired during the RI. The report summarizes the physical conditions at the site and in the surrounding area; and provides a detailed evaluation of the site's environmental conditions with respect to current and former property uses. The report also provides a summary of the nature and extent of the site contamination and recommended remedial objectives.

1.2 REPORT ORGANIZATION

A description of the facility, the surrounding area, the site history and previous investigations conducted at the site are provided in the following section. Section 2.0 contains the details of the site investigation that was performed. Section 3.0 provides a discussion of the physical characteristics of the study area. The nature and extent of the conditions identified during the site investigation are discussed in Section 4.0. Section 5.0 contains a summary of the RI and the conclusions that were derived from it. The tables that are referenced in the report can be found at the conclusion of the report text. The figures are located at the back of this report volume. Appendix A contains historical dioxin sampling data. Appendix B contains soil and monitoring well boring logs, monitoring well construction details and soil physical testing results. Appendix C contains the diurnal, tidal and hydraulic conductivity measurements. Appendix D, in volume II, contains the data validation report and analytical data summary packages.

1.3 SITE BACKGROUND

1.3.1 Site Description

1.3.1.1 Location and Geographic Setting

CWMNJ operates a TSD facility at 100 Lister Avenue in Newark, Essex County, New Jersey. The current owner of the property is:

Lister Properties and Newark Chemical Industries
c/o Steer Equipment
2970 Marin Avenue, Suite 112
Northbrook, IL 60602
(708) 559-0300

The site occupies 2.8 acres of land in an industrialized area where adjacent chemical processing, manufacturing and related activities are permitted under existing zoning codes. The site is approximately 2.5 miles northeast of Newark Airport, 650 feet south of the Passaic River and approximately 3,500 feet west of the New Jersey Turnpike. The Hilton Davis Co. is located to the northeast, Benjamin Moore to the east, Lister Avenue to the south and Duralac Chemical Company to the west. The Diamond Shamrock dioxin contaminated property is located to the northwest. The surrounding area consists mainly of industry, abandoned industry and open commercial properties. The Site Location Map is depicted on Figure 1.

1.3.2 Facility Description

1.3.2.1 Facility Overview

The CWMNJ Newark facility is currently permitted to operate as a TSD facility under the Resource Conservation and Recovery Act (RCRA). The Part B RCRA Permit was issued on December 28, 1989.

The CWMNJ Newark facility provides transfer, storage and treatment of hazardous and non-hazardous wastes. All waste unloading, handling, storage and processing systems are located within fully contained, concrete surfaced and diked processing areas. All wastes received are processed to yield pretreated wastewater suitable for discharge to the Passaic Valley Sewerage Commission (PVSC) regional system or are received for transfer and disposal at other permitted off-site facilities. No radioactive, explosive, PCB (>50 ppm), dioxins, compressed gases or infectious wastes are permitted on site. Solid wastes are accepted for transfer only. No long-term storage of waste materials is permitted on site. All chemical processing activities are carried out in closed reactors with appropriate air pollution control systems to minimize odors and prevent the release of potentially toxic gases or vapors.

The physical layout of the existing facility is shown on Figure 2. As shown, the existing facility consists of the following regulated units:

1. A Drum Storage and Decant Building;
2. Liquid Waste Tank Farms;
3. A Chemical Treatment Unit; and
4. Advanced Aqueous Treatment Units.

In addition to these regulated units, there are also an office and administration building, a maintenance building with storage and office areas, a personnel building, a truck scale and a laboratory at the site.

The facility currently handles both hazardous and non-hazardous wastes, primarily in the form of liquids or slurries. Wastes are received in drummed lots and in bulk tanker trucks and railcars. Drummed wastes can be accumulated, stored in the Drum Storage Unit for a maximum of 180 days until transfer and/or disposal at off-site facilities or treated on-site. Bulk liquid wastes are unloaded into either the 100-Series Tank Farm, or the reactors. Incoming wastes are sampled and analyzed to determine if they meet the waste analysis plan specifications and to which storage units they will be sent.

Inorganic and reactive wastes are treated by one or more of the following appropriate chemical transformation processes:

- Neutralization
- Precipitation
- Oxidation
- Reduction
- Hydrolysis
- Filtration
- Detoxification

Upon treatment, if necessary, wastes may be sent to secondary aqueous treatment prior to discharge to the sewer.

The aqueous treatment plant provides physical and chemical treatment of wastes; and can process a wide range of inorganic wastes including acids, caustics, reactives, leachates, contaminated groundwater and wastewaters and various other aqueous wastes from the chemical, pharmaceutical and petroleum industries. Aqueous wastewaters generated on-site are treated by a range of secondary treatment processes to ensure that the effluent is acceptable for discharge to the PVSC sewer system. Processes currently available include those previously listed.

Finally, the CWMNJ Newark facility can employ, when necessary, a stabilization process for stabilizing residuals generated by the waste treatment processes described above before transferring these residuals off site for disposal.

The facility is entirely surrounded by an artificial barrier, the lowest portion of which is a six foot high chain link fence with three strands of barbed wire. The perimeter fence has three vehicle gates on the south side and a gate access to a chemical manufacturing plant bordering the north side of the site. In addition, there is a railcar access gate at the southwest corner of the site.

1.3.2.2 Stormwater Management System

A comprehensive storm water management program ensures that surface water runoff from potentially contaminated areas is collected within the contained areas of the facility for testing and proper treatment and disposal. Stormwater from non-contained site areas enters the stormwater sewer where it is discharged into a combined sewer which is connected to the PVSC system. Therefore, no contaminated runoff currently leaves the site and run-on surface water from adjacent facilities is prevented from entering the site.

Any stormwater that falls on the site is contained and managed according to the facility's storm water management program. There are seven systems on site that handle stormwater:

Run-On Waters

Berms and curbs are in place in order to minimize run-on water from adjacent properties.

Diked Areas

All areas containing potentially hazardous material have containment dikes in compliance with 40 CFR 264.193 and N.J.A.C. 7:26-10.4(d). The stormwater collected in these diked areas is pumped out of the individual sumps through overhead piping into dedicated above ground tanks (ASTs). The AST's secondary containment areas are designed to have enough capacity to contain the run-off volume for a 24-hour design rainfall of 7.85 inches using the 25-year frequency. The contents of the tanks are tested, treated as necessary, and disposed of to the PVSC system. The tanks are regularly inspected and electronically monitored for volume to prevent overflow situations. The dikes serve two purposes: 1) containment of hazardous spills and contaminated rain water and 2) prevention of floodwaters from coming in contact with or washing out areas that contain hazardous materials.

Roof Areas

The stormwater run-off from the roof area (which covers about 40% of the facility) is considered as clean (uncontaminated) and fit for discharge into storm sewers. All roofs are provided with necessary gutters and downspouts and the run-off is directed by means of segregated underground storm sewers.

Open Areas

Run-off from open areas (non-contact stormwater) is directed to a storm sewer. Any potential spills which occur in the open areas and any contaminated stormwaters would be contained within the stormwater collection system by closing a valve which prevents release of the waters to the city storm sewers. Contaminated waters from this system are pumped to collection tanks through overhead piping and hoses.

Railroad Loading/Unloading Area

This area is surrounded with dikes and the inside is sloped towards a sump which is designed with a capacity to handle the volume of two railroad tank cars plus the volume of the 24-hour, 25-year storm. Potential spills would be pumped out of the sump to dedicated tanks.

Truck Loading/Unloading Areas

These areas are equipped with secondary containment systems.

Buildings

The floor washings from the inside of process buildings are collected and managed in the same manner as the stormwater from the diked areas.

1.3.2.3 Storage and Process Areas

100 Series Tank Farm

The 100 series tank farm consists of above ground storage tanks (AST's) constructed of various materials (carbon steel, stainless steel, fiberglass and special alloys) to accommodate various wastes. The AST's are situated in a fully contained area. The tank farm is diked with impervious coated concrete block walls. Potential spills would be contained in the dike and then pumped and collected for treatment and/or disposal.

300 Series Tank Farm

The 300 Series Tank Farm consists of two stainless steel AST's, two fiberglass AST's, a caustic scrubber and a carbon absorption unit. The AST's are located in a secondary containment structure. The AST's were previously used for the storage of aqueous and organic bulk drum waste that was decanted in the drum warehouse. This tank farm is currently undergoing closure.

500 Series Tank Farm

The 500 series tank farm formerly contained AST's situated in a fully contained area. The AST's were previously used for the storage and blending of organic fuel materials. All of the tanks were decommissioned and removed in the latter part of 1992 except for one tank which is currently used as a stormwater holding tank.

600 Series Tank Farm

The 600 series tank farm is fully contained and located along the north wall of the Filter Press Building. Two of the AST's are used for storing filter feed and the other two AST's are used for storing filtrate.

700 Series Tank Farm

The 700 series tank farm consisted of 10 steel AST's and approximately 20 other AST's which have been removed. The AST's were located within a concrete dike with a concrete floor since their construction in approximately 1959. This tank farm has been closed.

Salicyl Aldehyde "SAL" Production Area

The salicyl aldehyde "SAL" production building is a five story steel structure which contained numerous storage and process tanks associated with the production of SAL. In addition to manufacturing tanks, there were also reactors and storage vessels for the recovery of hydrochloric acid from various facility waste streams. This structure is no longer in use, was never operated by CWMNJ and is not known to have treated RCRA hazardous waste.

Reactor Tanks

The majority of the treatment at the facility currently consists of chemical transformation processes which are carried out in four fiberglass reinforced, plastic reactors. The reactors are located in fully contained areas with impervious coating.

Filter Press Building

The filter press building houses three filter presses which dewater the sludge from the process reactors. The filtrate is stored in the 600 series tank farm prior to treatment. The sludge cake is deposited into roll-off boxes for off-site disposal at a secure land burial facility. The floor of the filter press building is concrete with trench drains. The trench drains have been upgraded to capture any releases from the filter presses.

Truck Loading/Unloading Areas

All truck loading and unloading is accomplished on bermed concrete pads, sloped to contain any spills or releases.

1.3.3 Site History

The CWMNJ Newark facility is located in the heart of a large industrial complex known as the Iron Bound Section of the City of Newark. The site was initially developed prior to 1900 by the Lister's Agricultural Chemical Works. Prior to this industrial development, the area was primarily a salt marsh. The marshland was filled in the late 1800's and early 1900's with a mixture of coal ash, construction debris, and soil to facilitate the land development.

The CWMNJ Newark facility is currently situated on two lots; lot 19 and lot 31. These two lots, as explained below, were separate properties before 1952.

According to the 1931 Sanborne fire insurance map, Peerless Oil Company of Delaware occupied lot 19. The only indication of site operations is a building labelled the paint shop. Richfield Oil Company owned lot 19 between 1940 and 1952. It is not known exactly what type of operation was conducted during this time but it is assumed that the facility was used for the refining of oil. There are no known records of the raw materials used, the waste products generated from the operation or the method of waste disposal. The 1950 Sanborne fire insurance map shows no buildings, operations or indication of ownership of this parcel of property. In

September of 1952, Richfield Oil Company sold the operation to Celia Bershon who owned it for a short period before selling to Montrose Chemical Company that same month.

During this time lot 31 was also being used for industrial purposes. American Agricultural Chemical Company owned and operated a fertilizer production facility on the lot for an unknown period of time up until 1931. Again, there are no known records of raw materials used, waste products or methods of waste disposal. Additionally, the 1931 Sanborne fire insurance map did not give any indication of site operations. In January of 1931, the facility on lot 31 was sold to Montrose Refining Company. Montrose Refining Company was essentially engaged in the refining of oil until August of 1939 when the company changed its focus to the production of organic chemicals while changing their name to Montrose Chemical Company.

Montrose Chemical Company merged with Baldwin Rubber Company in June of 1961 to form Baldwin-Montrose Chemical Company. At this point, Montrose was operating on both lots 19 and 31. Ownership of the site was later transferred in June of 1968 to Chris-Craft Industries. Property deeds show that Chris-Craft then merged with Sobin Chemicals, Inc. in December of 1974. These deeds show that in May of 1977, a company named IMC Chemical Company sold the property to Lister Properties, the current owners of the land. Historical information suggests that Montrose Chemical Company was a subsidiary of IMC Chemical.

Area History

All of the land between Lister Avenue and the Passaic River was originally part of the Lister's Agricultural Chemical Works. This included the properties currently owned or formerly used by Diamond Shamrock, Hilton Davis, Benjamin Moore and Duralac Chemical Company. After Lister's Agricultural Chemical Works ceased operations the land was subdivided largely along the current property boundaries.

Kolker Chemical Works, Inc. was one of the early occupants of the Diamond Shamrock site. Kolker was an early producer of dichlorodiphenyltrichloroethane (DDT) and phenoxy herbicides.

Reportedly, the DDT production began before World War II with phenoxy herbicide production beginning in 1948. Kolker ceased operations in 1951 when the property was acquired by the Diamond Alkali Company which subsequently was named the Diamond Shamrock Chemical Company.

Manufacturing operations at the Diamond Shamrock site generally produced the same products that Kolker had. However, following an explosion at the plant in 1960, the only product produced at the site was phenoxy herbicides. The plant was shut down in 1969 and remained idle until 1971.

The property was purchased by the Chemicaland Corporation in 1971. Chemicaland used the property to sporadically produce 2,4-D and 2,4,5-T. The active production was periodically interrupted by plant shutdowns until all operations ceased in 1977. The property remained idle through 1980 when it was purchased by an individual and then resold in 1981 to Marisol, Inc. Marisol was in the process of renovating the property when dioxin was discovered on the property in 1983 (IT).

The current Hilton Davis property was purchased by the American Agricultural Chemical Company prior to 1930. This company also owned the land currently occupied by CWMNJ and Benjamin Moore. Reportedly, the American Agricultural Chemical Company manufactured inorganic fertilizers.

In 1930, the American Agricultural Chemical Company sold the current Hilton Davis property to the Swan-Finch Oil Company which occupied the property until 1950 when it was sold to Turco Products, Inc. In 1955, Turco Products conveyed the property to Thomasset Colors who manufactured pigments and dyes.

Thomasset conveyed part of the property to Benjamin Moore in 1959. In 1983, Thomasset conveyed the property to Sterling. The Hilton Davis property continues to be used for the manufacturing of pigments and dyes (ERM).

The Sanborne fire insurance maps indicate that the Duralac Chemical Company occupied the property to the west of CWMNJ prior to 1950, and Benjamin Moore occupied the property to the east prior to 1973.

1.3.3.1 Lister's Agricultural Chemical Works

Lister's Agricultural Chemical Works occupied all of the current CWMNJ Newark facility area as well as property to the north, east, and west. Lister's Agricultural Chemical Works produced bone black, phosphates, sulfuric acid, ammonia and glue. According to Sanborne fire insurance maps from 1892 and 1908, acid chambers were located in the western portion of the current facility while grinding and storage buildings were located in the central and eastern areas.

1.3.3.2 Montrose Chemical Company

The 1950 Sanborne fire insurance map indicates that the eastern portion of the current facility (lot 31) was used mainly for drug and chemical manufacturing. At this time, the building in the northeast portion of the property was leased to Truco Products, Inc., while a building in the central portion of the facility was used for oil blending by Casper Lubricants. The western portion of the current facility (lot 19) was vacant at this time.

Prior to 1977, when Lister Properties acquired the site, several areas were used simultaneously for the production of various organic chemicals. The principal chemical end products were produced in four discrete areas, as follows:

1) Methyl Cresotinate Area - This process utilized the five-story steel complex (SAL building) built in 1959 and redesigned and renovated in 1974. The former 700 series tank farm that was previously discussed was associated with this process. The principal raw materials used in this process are as follows:

a) o-Cresol (C_7H_8O)

b) Sodium Hydroxide (NaOH)

c) Carbon Dioxide (CO_2)

d) Sulfuric Acid (H_2SO_4)

e) Xylene (C_8H_{10})

f) 2-Ethyl Hexanol [$CH_3(CH_3)_3CH(C_2H_5)CH_2OH$]

2) SAL Production Area - The SAL production area consisted of a 10,000 square foot steel process building, located north of the laboratory building, which housed 12 glass-lined reactors and associated glass-lined transmission pipes. An ancillary muriatic acid (HCl, 20%) recovery process was also associated with SAL production. The following types of raw materials were handled in conjunction with the production of SAL:

a) Mesityloxide [$(CH_3)_2C:CHCOCH_3$]

b) Chlorine (Cl_2)

c) Caustics

d) Methanol (CH_3OH)

e) m/p-Cresol (C_7H_8O)

f) Hydrochloric Acid (HCl)

g) Phenol (C_6H_6O)

3) Dimethylisophthalate Area - This process was formerly a multi-purpose, high-temperature esterification facility equipped for continuous solvent recovery, distillation and flaking operations, located east of the laboratory building. The reactors were composed of 347 stainless steel with condensers, receivers and a stainless steel Geitsch Column with three stage vacuum jets. The raw materials involved in this operation consisted of the following:

a) Isophthalic acid of methylester

b) Butanol

c) Chlorosulfonic acid

d) Methanol

4) Phosphate Ester Area - This area was located east of the SAL production building and housed glass-lined reactors and monel stills. The esters were produced from cresylic acid and phosphorous oxychloride. A four stage vacuum jet system and a high-temperature electrically heated oil system were also used in the process. Exhaust gases from the reactors were drawn off and sent to the HCl recovery system.

In addition to the above areas, a multi-purpose building, designated as Building 5, was utilized to carry out a number of special reactions including sulfonations, chlorinations and hydro-chlorinations. Equipment utilized for these processes consisted of glass-lined reactors, stills, condensers, gas scrubbers, mixing tanks and a low temperature brine chiller.

The total plant storage capacity (static and in process) was approximately 400,000 gallons. Reportedly, all tank farms were diked during construction; however construction techniques and other containment methods are not known. Tank materials varied with the type of process with which they were associated and ranged from carbon steel, stainless steel, aluminum, and fiberglass, to special alloys such as nickel and monel.

1.3.3.3 SCA Chemical Services Company

In December of 1977, SCA Chemical Services Company (SCA) and Wastequid Inc., formed a partnership and assumed the operation of the facility from Montrose Chemical Company and received a permit from the NJDEPE to construct and operate a hazardous waste facility. The site was occupied in April 1978 and the first wastewater was received for treatment in July. During the next few years, SCA began implementing a program to upgrade paved areas and provide uncontained storage tank areas with secondary containment. According to personnel

who worked at the facility since 1980, the entire site was covered with concrete. Exact dates of facility upgrades during SCA operations are not available.

SCA operations included the storage and treatment of hazardous waste liquids utilizing the existing reactors and storage tanks modified for use by SCA. Wastes were handled and stored in the same locations used currently in addition to fuels blending operations in the 500 series tank farm. The majority of the treatment processes included the chemical transformation processes of neutralization, oxidation, reduction, hydrolysis and detoxification carried out in the reactors on the east side of the property. Additionally, until 1986, the former methyl cresotinate area (700 series tank farm) was used for distillation, acid splitting, phase separation and various other specialty treatment methods.

SCA Waste Types

SCA accepted and treated the following waste streams:

Waste ID	Type
17	Dry Hazardous Waste
18	Dry Non-Hazardous Chemical Waste
70	Waste Oil and Sludges
72	Bulk Liquids and Semi-Liquids
76	Liquid Hazardous Waste
77	Liquid Chemical Waste
26	Oil-Spill Clean-up Debris

SCA continued operating after the promulgation of RCRA, therefore, all accepted wastes and waste products were regulated and recorded under interim status as a TSD facility.

SCA Historical Sampling Data

East Side Unloading Area and Three Underground Storage Tanks (UST):

On July 12, 1985, soil samples were collected at five locations on site (see Figure 3). Sample 1 was collected in the southeast corner of the facility, while samples 2 and 3 were collected in the northeast portion of the facility in Truck Loading and Unloading Areas A, C and D, respectively. Two additional samples, 4 and 5, were collected in the south-central portion of the facility, where three underground storage tanks (UST's) were located. The samples were analyzed for the following parameters:

- PCB's
- Phenols
- EP Toxicity
- Petroleum Hydrocarbons
- Reactivity
- Corrosivity

The samples were collected at a depth of three to seven feet below the ground surface (BGS). A shallow and deep sample were collected at the 2, 3, 4, and 5 locations. A visual observation of the soil revealed that the top two to three feet of the sample was wet and black looking while the bottom portion appeared to be clay. The samples were composited and analyzed according to the following designations: 1A, 2 & 3B, 4B, 2 & 3A, 4 & 5A and 5B.

Phenols were detected at concentrations of approximately eight parts per million (ppm), while petroleum hydrocarbons were found in the range of 22 ppm to 510 ppm in all of the samples. See Table 1, for complete results.

SCA conducted a site-wide sampling program for dioxin after the discovery of dioxin on the neighboring Diamond Shamrock site. Soil, air and dust samples were collected and analyzed for dioxin. The sampling procedures, protocols, and sampling oversight activities employed by SCA or their representatives are unknown. A letter, dated October 20, 1983, was submitted to the USEPA Region II commissioner at the time. The SCA files were incomplete and not organized when the RI Work Plan was submitted. A copy of the report was subsequently located and is included in Appendix A.

The dioxin sampling performed by SCA involved the collection of more than 30 samples from across the site. A grid system was established and at least one sample was collected from each grid. The samples were analyzed for dioxin by Environmental Testing and Certification (ETC), Edison, New Jersey. Dioxin was detected in some of the dust samples that were collected at concentrations of less then one to 15 parts per billion (ppb). However, dioxin was not detected in any of the gravel and soil samples that were collected. Dioxin was detected at concentrations of approximately four ppb in soil on the property to the north of the SCA facility. The SCA letter report, included in Appendix A, contains a sample summary table, a rudimentary sample location plan and the ETC Data Management Report.

1.3.3.4 Chemical Waste Management

In September 1984, SCA Services, Inc., the parent company of SCA, was acquired by CWM, a wholly-owned subsidiary of Waste Management, Inc. (WMI). In September 1986, CWM acquired Wastequid, Inc. In May 1988, SCA's name was changed to CWM of New Jersey, Inc. On December 28, 1989, CWMNJ received a RCRA Part B Permit (Permit #0714K2HP06) from the NJDEPE allowing the site to operate as a RCRA regulated hazardous waste TSD facility.

Chemical Waste Management Waste Types

Incoming hazardous waste and hazardous substances are allocated, by CWMNJ to one of the following six categories:

1) Organic Aqueous Wastes - These hazardous substances and hazardous wastes consist of oil and hydrocarbon contaminated waters, as well as ink washes and ink formulation wastes.

2) Acid/Base Wastes - These hazardous substances and hazardous wastes are comprised of acids and bases which may be contaminated with toxic metals.

3) Chemically Reactive/Transformable Wastes - These hazardous substances and hazardous wastes are received in the form of wastewaters, sludge or solids, and contain such components as cyanides and a variety of compound salts.

4) Water Reactive Wastes - This category includes water reactive catalysts, carbonyl chlorides and various isocyanates in high concentrations, which are hazardous substances and hazardous wastes.

5) Wastewaters - The types of wastewaters in this category include contaminated waters collected from on-site containment areas, off-site facilities (rainwater and other runoff), leachates, groundwaters, washwaters and non-hazardous washwaters and sludges.

6) Wastes Accepted for Transfer Only - These include a wide variety of hazardous substances and hazardous wastes which are accepted only in drums for transshipment to other TSD's.

All specific incoming wastes are regulated and listed in CWMNJ's RCRA Part B permit. The end products of the treatment processes are also described in the RCRA Part B permit.

1.3.4 CWM Historical Sampling Data and Site Upgrades

Figure 3 depicts a map of all of the historical sampling locations. The site areas that were updated in accordance with the RCRA Part B permit are shown on Figure 4. Table 1 depicts the Summary of Historical Sampling Data. All of the information available for each sampling event has been included.

Rail Containment Excavation and Upgrade:

In 1990, the Rail Car Loading/Unloading Area was renovated. The scope of the project included the removal of approximately 380 feet of the existing on-site 90-pound rails, ties, plates and asphalt paving. The existing ballast material was cleaned in place and reused. New ties, plates and 132-pound rails were installed on both the curved siding and the on-site switching spur. The rail car loading/unloading area is 130 feet long consisting of a reinforced concrete containment area with cast in place floors, walls and piers. The containment area is epoxy-resin coated and sized in accordance with state and federal requirements. Essential pumps, piping and controls were also installed for the secondary containment sump and tank car interconnection to the 100 Series Tank Farm.

On August 22, 1990, during the excavation, several soil samples were collected from the excavated trench. Four samples were composited into two samples and analyzed for volatile organic compounds (VOC), semi-volatile organic compounds (semi-VOC), pesticides/PCBs, metals and Tentatively Identified Compounds (TIC's). Ethylbenzene was the only VOC detected at concentrations of 21 ppm and 150 ppm. Several semi-VOC's were detected in each sample. Alpha and beta BHC was detected in one sample at 1 ppm and 2 ppm, respectively. The parameter concentrations are below the proposed soil cleanup criterion for total volatile organic compounds. All of the soils that were removed during the excavation were disposed of properly. Complete results can be found on Table 1, pages 2 through 6.

Underground Storage Tank:

On July 9, 1991, eight soil samples were collected from the perimeter of a closed underground storage tank (UST) located on the site. These samples were all analyzed for total petroleum hydrocarbons (TPH). Additionally, soil samples S-1 and S-8 were analyzed for semi-VOC's (USEPA Method 8270). The purpose of the testing was to determine if there had ever been any leakage from the UST and to determine what substances may have been stored in the UST.

The soil borings were drilled by a New Jersey licensed well driller and included continuous split spoon sampling until the target depth was reached. The borings were drilled within two feet of the UST to determine the quality of the soil within the UST bedding material. Soil samples were collected at depths above the water table. The location of the abandoned UST and soil sampling locations are shown on Figure 3. Petroleum hydrocarbons were detected at concentrations ranging from 100 ppm to 620 ppm. Semi-VOC's were detected at 362 ppm and 120 ppm in sample S-1 and S-8, respectively. These detections are below the proposed soil cleanup critera. See Table 1, pages 7 through 11, for complete results.

The UST was closed in place on June 25, 1991 by filling the tank with a cement and sand slurry in accordance with NJDEPE approval. The Closure Plan Implementation Report was submitted to the NJDEPE, Bureau of Underground Storage Tanks (BUST).

Discharge Sump Repair:

Following the treatment of hazardous wastewaters at the facility, treated water is stored in holding tanks and discharged to the local sanitary sewer system. The effluent line from Tanks 6A and 6B discharges into an effluent discharge sump which discharges into the local sanitary sewer system. A sump cleanout and repair was initiated to remove solid residues when the discharge pipe which runs from the sump to the sewer became blocked. In addition to the cleanout of the sump, it was also planned to upgrade the construction of the sump.

The project was conducted on September 7 and 8, 1991. The bottom solids of the effluent discharge sump were removed to a depth of 48 inches below the adjacent ground surface. The

solids were excavated manually using a shovel and then placed in a five gallon plastic bucket. A sample of the sediment from the bottom of the effluent sump was taken when the 48 inch depth was attained. The sample was then collected from the five gallon bucket and placed into laboratory clean glass jars using a clean trowel. The analyses performed were:

- TCLP Volatile Organic Compounds
- TCLP Semi-Volatile Organic Compounds
- TCLP Metals
- Total PCB's
- Total Petroleum Hydrocarbons

The organic compounds chlorobenzene (2300 ppb), 2-methylphenol (590 ppb), 3/4 methylphenol (320 ppb) and 1,2-dichlorobenzene (1300 ppb) were detected. Pesticides and PCB's were not detected. Table 1, pages 2 through 5, contains the complete results of the analyses.

Foundation Excavation - Tanks 6A and 6B Upgrade:

In October 1991, Tanks 6A and 6B were removed and replaced. A secondary containment area was constructed after the old tanks were removed. During the excavation for the secondary containment, two soil samples were collected and analyzed for VOC's, semi-VOC's, pesticides/PCBs, metals and TCLP. Toluene was the only VOC detected at concentration of 860 ppm and 7500 ppm. Semi-VOC's were detected at 54 ppm and 122 ppm. The toluene concentration is above the proposed soil cleanup criterion for this parameter. However, the concentration of total organic compounds is below the aggregate criterion. See Table 1, pages 2 through 6, for complete results.

Center Storm Drain Upgrade:

In December of 1991, the center stormwater collection system that runs from Lister Avenue at the main gate to the CWMNJ property line at the north side of the site was cleaned out and a liner installed in the center pipe line. All catch basins were also replaced at this time. The

north end of the pipe was permanently plugged with concrete and an emergency shut-off valve was installed at the southern end.

On December 10, 1991, during the storm drain excavation, a soil sample was collected and sent to CWM's Eastern Region Laboratory to be analyzed for full priority pollutants. A total semi-VOC concentration of 3.4 ppm was detected. There were no detections of pesticides/PCB's. See Table 1, pages 2 through 5, for complete results.

103 System Upgrades:

The 103 drainage system on the east side of the plant was the final subsurface storm sewer segment to be remediated as part of the required RCRA Part B upgrades. The 103 system consisted of approximately 100 feet of PVC piping and several unlined sumps from which the collected rainwater was pumped to above ground storage tanks for treatment and discharge. During 1993, the 103 system was cleaned, inspected, sampled and filled with concrete grout. A report describing the activities associated with this project was submitted to NJDEPE on October 12, 1993. The project was granted final construction approval by NJDEPE on November 5, 1993.

Reactor A Replacement and Reactor Containment:

In 1989, Reactor A was removed and replaced along with T99, T100 and SB4. Piping was also upgraded for Reactors A, B, C, D and E as well as T99, T100 and SB4. Containment areas for Reactors A, B, C, D and E were also constructed. Another containment area was constructed for the sodium hypochlorite and laboratory waste collection systems.

Filter Press Building Floor Drains:

In August of 1990, the Floor Drain Upgrade was completed. This project included cleaning, sandblasting, lining and upgrading the sumps. New pumps were also installed along with a three part layer coating system.

East Side Trench Upgrade:

The collection trench along the west side of the 100 series east side tank farm was cleaned, backfilled with compacted stone and covered with a continuous concrete cap in June of 1991. The portion of the collection trench along the south side of the tank form was cleaned, coated and the former outlet was plugged. This portion of trench now serves as a secondary containment for the raw material unloading station (i.e. caustic soda and sodium hypochlorite).

East Side Unloading Area Project:

In November of 1991, the East Side Unloading Area Renovation was completed to provide easier access for tank trucks. Three pumps were installed with new hose stations for each side of the East Side Unloading Area. A new concrete loading platform was also installed for each side of the unloading mat along with two drum decant platforms. New pumps were installed in the East Tank Farm so that each tank had its own transfer pump and new acid and base transfer headers were provided. The existing pipe rack and piping in the East Tank Farm were renovated.

East Side Instrumentation Upgrade:

The East Side Unloading Area instrumentation has been upgraded. The four reactors, the hypo tanks, the drop tanks, the filter tanks, scrubbers, all waste storage tanks, the caustic tank and the acid tank have had various monitoring and control devices installed. Two alarm panels were installed to serve the reactors, the hypo tanks and the East Tank Farm. A new control room to monitor the equipment was also constructed. Two other remote monitoring systems are located in the laboratory and operations management office.

Drum Warehouse Upgrade:

The Drum Warehouse was upgraded in 1992 in order to satisfy the RCRA Part B 100-year floodplain requirements, and the National Fire Protection Association (NFPA) protection guidelines. A containment dike wall was installed within the outer perimeter walls of the building to meet the 100-year floodplain requirement and all floors consisted of newly poured

concrete. The flammable storage area was maximized into individual rooms, enclosed with a ceiling, proper ventilation and a sprinkler system to meet NFPA requirements.

The concrete floor was raised one foot to minimize ramping and maximize usable storage space. The decant facility was demolished and disposed after proper cleaning. The drum crusher was relocated to the north-central wall of the Truck Unloading Area. The facility areas that have been upgraded are shown on Figure 4.

1.3.5 Historical Aerial Photography Interpretation

Aerial photographs, ranging from 1940 to 1991, were reviewed by RUST personnel. The photographs indicated that industrial activities had been taking place at the site and in the surrounding area since the earliest fly over.

In the 1940 photographs, a building was present in the northeast portion of the site and drums were located along the eastern portion of this building. The western portion of the property was almost empty. There seemed to be an excavation in the central portion of the western side and there were approximately three tanks located in the west-central section that appeared to be connected to the tanks on the property adjacent to the western edge (now Duralac Chemical). There were five horizontal tanks in a bermed area on the Duralac property along the western edge of the property. These tanks were present in every photograph until after 1978. There was also an excavation in the northwest corner of the property with drums possibly being present. However, the presence of drums could not be clearly determined on the photographs. The Hilton Davis buildings were similar to the present layout.

The 1951 photographs were similar to the 1940 photographs with the exception of a building being present along the edge of the western portion of the property and there was a large operational facility on what is now the Duralac property. Additionally, there was an excavation in the central and north-central sections of the property and what appeared to be tractor-trailer trucks in the south-central portion of the property.

By 1961, both portions of the property seemed to be in full industrial use. Most of the current structures were in place with the exception of the west-central portion where drums were stockpiled. Drums were also located along the western edge on the Duralac property.

In the 1972 photographs, the facility was in full operation. Most of the ground surface appeared to be uncovered or unlined. There were drums present in the west-central and northeastern portions of the property. There were also drums present on the Duralac property in the southwestern corner and along the western edge. The drums along the western edge appeared to be stacked at least two high. In the northwest corner, drums and debris were apparent on the Diamond Shamrock property. There were also drums and debris present on the Benjamin Moore property to the east.

In 1974, there appeared to be approximately 1,000 drums stored on the Duralac property adjacent to the western edge of the CWMNJ property. There were also mounds of excavated soil on the Duralac property along the southwestern portion of the CWMNJ property. There were drums and debris still present on the Diamond Shamrock property and portions of the Hilton-Davis property in the northwest portion of the facility. What appeared to be a spill was apparent on the Benjamin Moore Property along the southeastern border of the facility. Conditions on site were relatively similar to those observed in the 1972 photographs.

The 1978 photographs were similar to the 1974 photographs with the exception of the presence of tractor-trailer trucks entering the back of the drum staging and decant building in the northwest portion of the CWMNJ property. There appeared to be several flatbeds to the north of this and drums to the west on the Diamond Shamrock property. Conditions in the 1986 and 1991 photographs were relatively similar to conditions currently on site.

SECTION 2.0 SUMMARY OF REMEDIAL INVESTIGATION ACTIVITIES

The field investigation for the CWMNJ Newark facility was conducted from May 1993 to August 1993. All work was performed in accordance with the specifications described in the RI Work Plan dated September 1992 and revised February 1993. The RI Work Plan was approved by NJDEPE in April 1993. Deviations from the Work Plan during the RI were verbally approved by the NJDEPE case manager.

The RI field investigation activities included the following:

- Soil Sampling
- Monitoring Well Installations
- Groundwater Sampling
- Hydraulic Testing

Each field investigation activity is described in the following paragraphs. The data derived from the field investigation is discussed in detail in Section 4.0.

2.1 SOIL SAMPLING

Twenty-five soil borings were sampled throughout the site. Soil borings were also completed at two other locations. However, samples were not obtained at these two locations due to the presence of granular material and/or groundwater directly beneath the pavement. Soil sampling was completed using cleaned two or three inch diameter by 24 inch long carbon steel split spoons. All soil sampling was conducted in accordance with ASTM D 1586-84. Soil samples from each split spoon were classified in accordance with the Unified Soil Classification System by a RUST Geologist. Continuous soil samples were collected at each location from the bottom of the paved surfaces to the top of the phreatic ground water surface. The soil from each split spoon was field screened with an Hnu Systems, Inc., Photoionization Analyzer Model PI 101

(PID). The soil sample with the highest PID reading was collected and analyzed for Target Compound List (TCL) VOC's. If the soil had no detectable levels of VOC's, a sample was collected from the soil six inches above the phreatic surface. At least one soil sample was collected from each boring location and analyzed for TCL VOC's. Whenever possible, two soil samples were collected from each boring location. These samples were collected from the soil six inches below the bottom of the paved surface and six inches above the phreatic surface and analyzed for the remainder of the TCL/Target Analyte List (TAL) parameters, pH and total organic carbon (TOC). The soil sample designations and analyses performed are shown in Table 2. Upon completion of soil sampling activities at each location, the borehole was backfilled with a cement and bentonite mixture.

All soil sampling equipment and drilling tools (i.e., split spoons, bowls, trowels, rods) were cleaned between each soil sampling location. The split spoons, augers and drill rods were cleaned with a high-pressure steam cleaner. The sampling bowls and trowels were cleaned with a laboratory grade detergent wash, a tap water rinse and a deionized water rinse. Clean, disposable gloves were worn while handling the sampling equipment. All water generated during the cleaning process was collected for proper disposal.

Laboratory supplied sample containers were used during the sample collection activities. Once collected and logged, the soil samples were placed in an ice-packed cooler to await shipment to the analytical laboratory. All soil samples were shipped via courier to Enseco, Inc., Somerset, New Jersey at the end of each day for laboratory analyses.

Soil boring logs were completed for each sampling location and are presented in Appendix B.

2.1.1 Soil Boring Locations

All soil sampling locations, as described in the RI Work Plan, were chosen to address the possible impact on the soil from past and present facility activities. The soil samples were collected from selected areas of the site approved by NJDEPE to characterize the nature and

extent of any potential soil contamination. The potential site areas of concern, which were listed in the RI Work Plan and corresponding sample locations are listed in Table 3. Underground obstructions (e.g. old foundations, etc.) were encountered at some of the proposed sample locations necessitating a relocation of the sampling points. Groundwater was also encountered directly beneath the pavement at a few of the soil sample locations. These subsurface conditions were brought to the attention of NJDEPE and modifications to the sampling plan were made, where necessary, with NJDEPE approval.

The potential areas of the facility where soil samples were collected included the 100, 500, and 700 series tank farms, at each of the major truck loading and unloading areas, around the former buried railroad tank cars, the closed in place UST, SAL sump/reactor area, and around the filter press building. In addition to the soil samples collected from the waste management areas listed above, two soil samples were collected in the northwest corner of the site and analyzed for dioxins. The soil sample locations are shown on Figure 5.

2.1.1.1 100 Series Tank Farm

Four soil borings were located along the western and northern perimeters of the 100 series tank farm area. Before soil samples could be collected, the concrete pavement at all four locations had to be removed with an electric portable coring machine with a carbide tipped bit. Groundwater at all four locations was encountered at between 1.5 feet to 2.5 feet BGS. Because of this, only one sample was collected from each location. Because of overhead obstructions, soil sampling locations 100-S1 through 100-S3 were moved to positions eight feet outside of the containment wall. The highest recorded PID measurements for soil samples 100-S1, 100-S2, 100-S3, and 100-S4 were five ppm, non-detect, 20 ppm and 15 ppm, respectively. Relatively low VOC concentrations were detected in each sample. The second highest concentration of total pesticides detected at the facility was found in sample 100-S1 at 10,358 ppm. The second highest detection of semi-VOC's was detected in sample 100-S3 at 1,296 ppm.

2.1.1.2 500 Series Tank Farm

Seven soil borings were located in the 500 series tank farm area. The soil borings were distributed throughout the 500 series tank farm area in the following manner. Three soil borings (500-S1 through 500-S3) were located within the containment area and two soil borings were located at the southern and eastern ends of the tank farm, respectively. Before soil sampling could take place at soil sampling locations 500-S1 and 500-S3, a portable electric coring machine with a carbide tipped bit was used to cut through the concrete containment. After the concrete was removed from soil sampling locations 500-S1 through 500-S3, groundwater was observed directly beneath the concrete in sampling locations 500-S1 and 500-S3. The presence of shallow groundwater at soil sampling locations 500-S1 and 500-S3 left soil sampling location 500-S2 as the only viable soil sampling location. Sample 500-S2 was collected from the first split spoon because groundwater was encountered at two feet BGS. The highest PID reading from sample 500-S2 was 45 ppm. Sample 500-S2 had a total VOC concentration of 63 ppm.

At the request of the NJDEPE case manager, one groundwater sample was collected at location 500-S1. The sample was collected with a disposable Teflon® bailer and analyzed for the complete TCL/TAL parameter list. The sample had total concentrations of VOC's at 3.4 ppm and semi-VOC's at 614 ppm.

The two soil sampling locations on the southern perimeter of the 500 series tank farm were designated Lister-S1 and Lister-S2. Lister-S1 was completed at a depth of 8.5 feet. Groundwater was encountered at 8 feet BGS. Two samples were collected from the Lister-S1 soil sampling location at 0.5 foot-2.5 feet and at 6.5 feet-8.5 feet BGS. However, because of a miscommunication with the laboratory, neither sample from this location was analyzed for TCL VOC's. Lister-S2 was completed at a depth of 4.5 feet. Groundwater was encountered at 3.75 feet BGS. Only one soil sample was collected at the soil sampling location Lister-S2 because the 0.5 foot to 2.5 feet spoon recovered only large pieces of gravel. No detectable levels of VOC's were measured with the PID at either Lister-S1 or Lister-S2. Sample Lister-S2 had a total VOC concentration of 0.08 ppm.

The two soil sampling locations on the eastern perimeter of the 500 series tank farm area were designated Truck-S1 and Truck-S2. Groundwater at both locations was encountered at 2.5 feet BGS. Because of this, only one sample was collected at each soil sampling location. No detectable levels of VOC's were measured at Truck-S1 while two ppm of VOC's were measured with the PID at Truck-S2. Sample Truck-S1 had a total VOC concentration of 0.02 ppm and sample Truck-S2 had a concentration of 0.3 ppm.

2.1.1.3 700 Series Tank Farm

Three soil borings were located within the former 700 series tank farm area. Before soil sampling could take place in the 700 series tank farm, an electric portable coring machine with a carbide tipped bit was used to cut through the concrete containment. After the concrete was removed, a clean three inch diameter split spoon was advanced with a portable tripod drill rig. At soil sampling location 700-S1 groundwater was encountered at four feet BGS. Because of this, two samples were collected at this location. The highest PID reading (50 ppm) was measured in the 0.5 foot - 2.5 feet interval. Because of PID readings and depth to groundwater, the first soil sample was collected from the 0.5 foot - 2.5 feet interval and analyzed for TCL VOC's. The second soil sample was collected from the 2.5 feet - 4.5 feet interval and analyzed for the TCL/TAL parameters. Only one sample was collected at 700-S2 and 700-S3 because groundwater was encountered at depths less than 2.5 feet. These samples were analyzed for the complete TCL/TAL list. No detectable levels of VOC's were measured with the PID at soil sampling location 700-S3. Sample 700-S2 had a total VOC concentration of 166 ppm. Samples 700-S1 and 700-S3 had total VOC concentrations of 9.9 ppm and 0.2 ppm respectively.

2.1.1.4 Truck Loading and Unloading Areas

Soil borings were located in each of the major truck loading and unloading areas. Before soil sampling could take place in the truck loading and unloading areas, a jackhammer was used to remove the asphalt at each location. After the asphalt was removed, clean split spoons were advanced with a truck mounted Mobile Drill B-24 rig.

Soil sample location Truck-S3 was located five feet west of truck unloading area B. Groundwater was encountered at 2.8 feet BGS. Because of this, the soil sample Truck-S3 was collected from the one foot to three feet interval. The highest recorded PID measurement from the Truck-S3 sample was 100 ppm. Sample Truck-S3 had total concentrations of VOC's at 348 ppm, semi-VOC's at 488 ppm and pesticides at 236 ppm.

Soil sampling location Truck-S4 was located 18 feet west of truck unloading area C. Groundwater was encountered at 3.75 feet BGS. Because of this, two soil samples were collected at this location. The highest recorded PID measurements observed in the intervals 0.5 foot to 2.5 feet and 2.5 feet to 4.5 feet were 5 ppm and 20 ppm, respectively. Because the highest recorded PID measurement was observed in the 2.5 feet to 4.5 feet interval, the soil sample to be analyzed for TCL VOC's was collected from this interval. This sample had a total VOC concentration of 17.5 ppm. Total semi-VOC's were detected at 161 ppm in the surficial sample and 74 ppm in the 2.5 feet to 4.5 feet interval.

Soil sampling location Truck-S5 was located 15 feet west of truck unloading area D. Groundwater was encountered at 3.75 feet BGS. Because of this, two soil samples were collected at this location. The highest recorded PID measurements observed in the intervals 0.5 foot to 2.5 feet and 2.5 feet to 4.5 feet were 90 ppm and 20 ppm, respectively. Because the higher PID reading was recorded in the 0.5 foot to 2.5 feet interval, the soil sample to be analyzed for TCL VOC's was collected from this interval. The sample had a total VOC concentration of 63 ppm. The highest site detections of semi-VOC's were found in the surficial sample at 7,428 ppm and at 7,742 ppm in the sample obtained from 2.5 feet to 4.5 feet.

Soil sampling location Truck-S6 was located five feet east of truck unloading area F. Groundwater was encountered at 2.5 feet BGS. Because of this, soil sample Truck-S6 was collected from the one foot to three feet interval. The highest recorded PID measurement observed in the Truck-S6 sample was five ppm. A blind duplicate soil sample designated Truck-S7 was also collected at this location. Sample Truck-S6 had a total VOC concentration of 3.6 ppm and sample Truck-S7 had 0.9 ppm.

2.1.1.5 Railroad Tank Car Area

Two borings were located at the site of the former buried railroad tank cars. Soil sample GH-S1 was located to the northwest and downgradient of the former buried railroad tank cars. Sample GH-S2 was located directly in the center of the former tank car area. Groundwater at GH-S1 and GH-S2 was encountered at 2.5 feet and 3 feet BGS, respectively. Because of this, only one sample was collected from each soil sampling location. No detectable levels of VOC's were measured with the PID at either GH-S1 or GH-S2. Both samples had virtually no detections of organic compounds.

2.1.1.6 Closed In-Place Underground Storage Tank

Soil sample location ABUST-S1 was located 10 feet northwest and downgradient of the abandoned UST. Groundwater was encountered at two feet BGS. Because of this, only one soil sample was collected at this location. The highest recorded PID measurement from the 0.5 foot to 2.5 feet interval was 5 ppm. Sample ABUST-S1 had a total VOC concentration of 4.5 ppm. The sample had the highest site detection of total pesticides at 20,008 ppm.

2.1.1.7 Filter Press Building

Soil sample FP-S1 was located 20 feet south of the filter press building and 8 feet north of Reactor E. Groundwater was encountered at 2.5 feet BGS. Because of this, only one soil

sample was collected at this location. No detectable levels of VOC's were measured at this location with the PID. The sample had a total VOC concentration of 0.3 ppm.

Soil sample location FP-S2 was located 22 feet north of truck unloading area D and 40 feet west of the filter press building. Groundwater was encountered at 3.3 feet BGS. Because of the small amount of recovery in the second split spoon and the PID readings, the soil sample submitted for TCL VOC analysis was collected from just above the phreatic surface in the three feet to five feet interval. The soil sample for the remaining parameters was collected from the one foot to three feet interval. The highest recorded PID measurements from the one foot to three feet and three feet to five feet intervals were 80 ppm and 180 ppm, respectively. Sample FP-2 had a total concentration of VOC's at 36 ppm, semi-VOC's at 136 ppm and pesticides at 1,952 ppm.

2.1.1.8 SAL Sump Area/Reactor Area

Soil sample location Lab-S1 was located at the northeast corner of the laboratory building, near the SAL sump and west of a former reactor area. Groundwater at this location was encountered directly beneath the concrete at two feet BGS. Because Lab-S1 was the only sample location in this area, a soil sample was collected even though groundwater was present. The highest recorded PID measurement from the two feet to 2.5 feet interval was five ppm. A blind duplicate sample designated as Lab-S2 was also collected. Sample Lab-S1 and Lab-S2 had total VOC concentrations of 11 ppm. Total pesticides were detected at concentrations of 2,922 ppm and 2,538 ppm, respectively.

2.1.1.9 Wastewater Discharge Sump Area

One soil boring was located in the southeast corner of the facility 20 feet northwest and downgradient of the wastewater discharge sump. Groundwater was encountered at 1.25 feet BGS. Because of poor sample recovery due to the presence of gravel fill and groundwater, no sample was collected.

2.1.2.0 Dioxin Area

Two soil samples were located in the northwest portion of the site. These locations were chosen because of their proximity to the Diamond Shamrock dioxin contamination site. Both samples were collected from the macadam/soil interface. Both samples were only analyzed for the presence of dioxin. Dioxin was not detected in either sample.

2.2 MONITORING WELL INSTALLATIONS

Three monitoring wells were installed in the southeast (MW-1), southwest (MW-2), and northwest (MW-3) corners of the property to determine the nature and extent of contamination in the shallow groundwater zone beneath the CWMNJ Newark facility (Figure 5). These locations were chosen based upon accessibility due to the proximity of the facility's infrastructure and the estimated groundwater flow direction.

The wells were installed with a Mobile Drill-B80 auger rig using six inch ID hollow stem augers. After the augers were advanced to the desired depth, the four inch polyvinyl chloride (PVC) well screen and riser pipe were lowered to the bottom of the borehole through the auger. Washed No. 2 filter sand was then poured through the auger while the augers were pulled up incrementally to construct a continuous filter pack within the borehole annulus to above the well screen. A bentonite seal of at least one foot was then constructed by slowly pouring bentonite pellets in the annular space and then tamping them in place. Potable water was added to the borehole to aid in the hydration of the bentonite seal. The remainder of the borehole was then grouted to the surface with concrete and a protective flush mount casing was installed. The proximity of the phreatic surface to the ground surface, necessitated decreasing the extent of the filter pack above the well screen and the thickness of the bentonite seal that is used during typical monitoring well construction. Monitoring well logs and construction diagrams are presented in Appendix B.

Monitoring Well MW-1 was installed in the southeast corner of the site. This well was completed to a depth of 13.5 feet BGS. The well penetrated 7.5 feet of fill material and partially penetrated six feet of the meadow mat. Monitoring Well MW-2 was installed in the southwest corner of the site. This well was completed to a depth of 19.0 feet BGS. The well penetrated nine feet of fill material and partially penetrated 10 feet of the glaciofluvial sands. The meadow mat was missing from the stratigraphic section at this location. Monitoring Well MW-3 was installed in the northwest corner of the site. This well was completed to a depth of 13 feet BGS. The well penetrated four feet of fill material and partially penetrated nine feet of the meadow mat.

Soil samples were collected from each well location boring and classified in accordance with the Unified Soil Classification System by a RUST geologist. Monitoring Well MW-1 was sampled by advancing split spoons from the top of the soil column to the desired depth. Monitoring Wells MW-2 and MW-3 were sampled by advancing split spoons from five feet BGS to the desired depth. One soil sample from each well had its grain size distribution confirmed by laboratory analysis as described in ASTM D422. Grain size distribution test reports are presented in Appendix B. All soil samples collected during the installation of the monitoring wells were stored on-site for future reference or analysis.

2.2.1 Well Development

The wells were developed by pumping at least three well volumes out of each with a centrifugal pump. Because of the slow recovery, only three well volumes were removed from MW-1. Monitoring wells MW-2 and MW-3 were purged until the groundwater from each was clear of sediment and field specific conductivity, pH and temperature readings were stabilized. At least

110 gallons of water was removed from each well. All development water was collected for proper disposal.

2.3 GROUNDWATER SAMPLING

The purpose of the groundwater sampling was to determine the quality of the groundwater in the shallow unconfined water zone beneath the site. Prior to the installation of the on-site monitoring well network, one grab groundwater sample was collected from soil sampling location 500-S1.

The three monitoring wells that were installed as part of the RI were sampled twice. The first round of sampling was conducted on June 6, 1993. The second round of sampling was conducted on August 18, 1993. In addition to the sampling of the on-site monitoring well network, permission was granted by the Hilton Davis Company to include monitoring well HDMW-6 in the second round of sampling. Environmental Resources Management, Inc. (ERM) personnel, who were observed by a CWMNJ representative, sampled monitoring well HDMW-6 on July 7, 1993. The data for this sampling event is considered in this report as part of the first sampling event. All activities at HDMW-6 during the second sampling event were observed by an ERM field engineer. Each well was purged in the following manner.

Prior to purging, the depth to groundwater (DTW) was determined using a Slope Indicator Company water level indicator Model 51453. Once the DTW was measured, one well volume was calculated by the following formula:

$$V = \pi * r^2 * h$$

Where:

V = volume of water in the well

π = 3.1459

r = radius of the well casing

h = height of the water column

Purging was completed using clean disposable personal protective equipment and a disposable Teflon® bailer. The first bailer purged from each well was observed for color, clarity and odor. After each well volume was purged, measurements of pH, specific conductance, and temperature were collected and recorded in the field log book. Purging was continued until these parameters stabilized. All of the groundwater that was purged from the monitoring wells was collected for proper disposal.

After each well was purged, the groundwater samples were collected in the following order:

1. Volatiles
2. Semi-volatiles
3. Pesticides/PCBs
4. Metals
5. Cyanide

After collection, the groundwater samples were stored at four degrees Celsius in ice chilled coolers to await shipment to the analytical laboratory. All of the samples were secured according to the chain-of-custody guidelines as outlined in the Quality Assurance Project Plan (QAPP).

All samples were either shipped via laboratory courier or hand delivered to Enseco, Inc., Somerset, New Jersey.

2.4 SAMPLING QUALITY CONTROL

The Quality Assurance Project Plan (QAPP) outlined Quality Assurance (QA)/Quality Control (QC) for field activities. The collection of QC samples and QC checks of field screening instruments are described below.

2.4.1 Field Duplicate Samples

Blind field duplicate samples were collected for one out of every 20 soil and groundwater samples. A total of two blind soil samples were submitted to the analytical laboratory for analysis. Duplicate soil sample Truck-S7 was collected at the Truck-S6 sample location and duplicate soil sample Lab-S2 was collected at the Lab-S1 sample location. A blind duplicate sample, designated MW-9, was submitted for monitoring well HDMW-6.

2.4.2 Rinsate Blanks

Rinsate blanks were collected by pouring laboratory supplied deionized water over a clean piece of soil sampling equipment. A total of three rinsate blanks for soil sampling equipment and two for ground water sampling equipment were collected and analyzed for TCL/TAL parameters.

2.4.3 Trip Blanks

A trip blank was included with each shipment of samples requiring analysis of TCL VOC's. Due to an error by the laboratory, no trip blank accompanied the shipment of samples sent to the laboratory on May 28, 1993. Trip blanks were analyzed for TCL VOC's.

2.4.4 MS/MSD Samples

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) samples comprise a performance evaluation sample suite that is required by the Contract Laboratory Program (CLP) Statement of Work (SOW).

The purpose of the MS and MSD sample suite is defined by three objectives listed below:

1. The use of spike surrogates may indicate the presence of matrix interference during laboratory analysis.

2. Recovery of the spike surrogate within percentage ranges as outlined by the MS/MSD analytical method evaluates the performance of the analytical laboratory methodology.

3. Duplication of the spike surrogate recovery establishes the precision and accuracy of the performance of the analytical laboratory methodology.

One MS/MSD sample suite was collected and submitted for analysis with every 20 samples collected to meet the objectives listed above.

2.4.5 Field Instrument Calibration

The only field instrument used during soil sampling that required calibration was the PID. The PID was calibrated at the beginning and the end of each day. It was calibrated with a mixture of zero air and isobutylene. The span setting was adjusted to the position as required by the calibration gas.

2.5 DIURNAL AND TIDAL MEASUREMENTS

Continuous diurnal and tidal measurements were taken August 18-20, 1993 to determine the relationship, if any, between the tidal cycles in the Passaic River and phreatic surface fluctuations in the shallow groundwater zone.

An In-Situ Well Sentinel, a single channel data logger with a 10 pound per square inch (psi) transducer, was placed in monitoring well MW-3 and in the Passaic River along the Hilton Davis river frontage. The In-Situ Well Sentinels were activated and allowed to collect measurements at one minute intervals over a two day period. At the end of the two (2) day period, the In-Situ Well Sentinels were deactivated. The Well Sentinel data banks were down loaded in the field

to a lap top computer. The data files were viewed in the field to ensure that the Well Sentinels had operated correctly.

2.6 DISPLACEMENT HEAD TESTS

Two types of displacement head tests were used to determine representative groundwater hydraulic conductivity values for the site. The first test performed was a falling head test. In this test, a cylinder (slug) of known volume was introduced into the well in order to create an instantaneous rise in the height of the water column. The second test performed was a recovery test. In this test, the cylinder (slug) was removed from the well in order to create an instantaneous drop in the height of the water column.

An Insitu Hermit 2000 Environmental Data Logger, a multi channel data logger with a 10 pounds per square inch (psi) transducer, and five foot PVC cylinder (slug) were used to conduct the displacement head tests in the three on-site monitoring wells. The transducer and cylinder (slug) were cleaned prior to their placement in each well.

2.6.1 Falling Head Testing

Each displacement head test was conducted in the following manner. A slope indicator company water level indicator Model 51453 was initially used to determine the depth to the phreatic water surface. The transducer was then placed more than five (5) feet below the surface of the water in the well, but less than the maximum service depth of the transducer. The depth of the transducer below the phreatic water surface was measured in each well. This was done so that the PVC slug would not disturb the transducer upon its entry or removal from the well.

The Hermit 2000 was set up to collect measurements on a logarithmic schedule described below.

Standard Log Schedule

Log Cycle	Elapsed Time	Sample Interval
1	0 - 5 seconds	0.5 seconds
2	5 - 20 seconds	1 second
3	20 - 120 seconds	5 seconds
4	2 - 10 minutes	0.5 minutes
5	10 - 100 minutes	2 minutes
6	100 - 1,000 minutes	10 minutes
7	1,000 - 10,000 minutes	100 minutes
8	> 10,000 minutes	500 minutes

After the displacement head test equipment was set up and checked, the PVC slug was lowered into the well so that it would be completely immersed just below the surface of the original water column. As soon as the bottom of the PVC slug entered the water column, the Hermit 2000 was simultaneously activated and the falling head test was initiated.

The Hermit 2000 recorded measurements according to the log schedule listed above until the height of the water column dropped to its original static level. After the height of the water column reached its original static level, the Hermit 2000 was deactivated and reset to record measurements during the recovery head test.

2.6.2 Recovery Head Testing

After the Hermit 2000 was reset, the PVC slug was removed from the well. As soon as the PVC slug was moved, the Hermit 2000 was activated simultaneously and the recovery head test was initiated. The Hermit 2000 recorded measurements according to the log schedule listed above until the height of the water column rose to its original level. After the height of the water column reached its original static level, the Hermit 2000 was deactivated and reset.

The displacement head tests were duplicated in MW-2 and MW-3. Because of the extended period of time required for the water column to equilibrate, the displacement head tests were not duplicated in MW-1.

2.7 SITE SURVEYING

The locations of all soil sample borings, monitoring wells and the tidal measurement point were surveyed by a RUST Environment & Infrastructure survey crew under the direction of a surveyor licensed in New Jersey. Table 4 presents the relevant survey data.

3.0 PHYSICAL CHARACTERISTICS OF THE STUDY AREA

3.1 SURFACE FEATURES

The lower Passaic River Basin and the City of Newark, New Jersey are heavily industrialized areas. Industrialization of the area began in the middle to late 1800's. Most of the land on both banks of the Passaic River, in the area of the site, is zoned for commercial or industrial uses.

The site is located in the southwestern portion of the Hackensack Meadows and is underlain primarily by silts, sand, and gravel deposited by glacial meltwater. The site and adjacent properties which were originally marsh lands were subsequently filled and are now almost fully developed.

As an industrial area that has been occupied for over 100 years, the entire site has been built up with fill. The fill is comprised of cinders, ash, bricks, sand, and rubble. As a result of this process, the original topography and elevation of the site has been altered. The site has been levelled and the site elevation varies from approximately seven feet to 9.5 feet above mean sea level (MSL). The entire site is covered with either asphalt pavement or concrete.

3.1.1 Fill Material

Information derived from site investigations at properties (Diamond Shamrock, Hilton Davis, Stanley Tools) in close proximity to the CWMNJ Newark facility demonstrates the similar nature of the physical and chemical composition of the fill material that was placed across the area in the late 1800's and early 1900's. A large portion of the fill apparently came from at least two large coal gasification plants that were located within two miles of the site area. The presence of substantial concentrations of polyaromatic hydrocarbons (PAHS) and trace metals in the surfical soils at all of the properties certainly suggests a common source for the fill material that was placed in the original marshlands.

All of the site investigations at properties along Lister Avenue have identified significant concentrations of generally the same PAH's and metals (arsenic, antimony, cadmium, copper, lead, nickel and zinc). The concentrations of these parameters are all also very similar to the documented composition of coal tars and ash. The final common denominator at each of the properties is the detection of these same parameters at site locations where there is no obvious source or indication of former use.

3.2 METEOROLOGY

The climate of the site is temperate and is typified by moist, warm summers and moderately cold winters with winds of moderate velocity. The winds in the Newark area are affected by the Atlantic Ocean and the regional topography. The prevailing winds in the site area are from the southwest with only small seasonal variations in direction. Mean wind speeds are generally highest during the winter and spring months (10 to 12 miles per hour), while the lowest values (8 to 9 miles per hour) occur during the summer season. The prevailing wind direction directly influences the temperature and precipitation in the Newark area.

The period of record for temperature measurements recorded at the Newark International Airport was from 1963 to 1992. Average monthly temperatures were calculated by dividing the sum of the average daily maximum temperature and the average daily minimum temperature by two. The average monthly temperatures were used to calculate the record mean and the average annual temperature. The monthly record mean is calculated by dividing the sum of average monthly temperates of a given month by the number of years represented in the period of record. The monthly record mean ranged from a low of 31.5 degrees fahrenheit in the month of January to 76.7 degrees fahrenheit in the month of July (NOAA, 4B). The average annual temperatures were calculated by dividing the sum of the average monthly temperatures by twelve. The average annual temperatures from the period of record ranged from a low of 52.7 degrees fahrenheit in 1967 to a high of 57.6 degrees fahrenheit in 1990.

The period of record for precipitation measurements recorded at the Newark International Airport was from 1931 to 1992. The monthly measurements were used to calculate the annual precipitation totals, the monthly record mean, and the annual record mean.

The annual precipitation totals are calculated by summing the monthly precipitation measurements. The annual precipitation ranged from a low of 26.09 inches in 1965 to a high of 65.50 inches in 1983. The monthly record mean is an average of the monthly precipitation measurements. The monthly record means are calculated by dividing the sum of the monthly precipitation measurements by the number of years represented in the period of record. The monthly record mean ranged from a low of 2.88 inches to a high of 4.18 inches. The annual record mean is calculated by dividing the sum of annual precipitation totals by the number of years represented in the period of record. The annual record mean is 43.09 inches.

3.3 SURFACE WATER

The site is located in the Lower Valley portion of the Passaic River drainage basin. The Lower Valley is the southeasterly portion of the basin lying between the Central Basin and the mouth of Newark Bay. It is characterized by a flat, relatively narrow floodplain, 1,000 to 2,000 feet in width, abutting low rolling hills. From the month of the river to Dundee Dam, the Passaic River is a tidal estuary and is navigable. The site is approximately three miles upstream from the mouth of Newark Bay. The majority of the Passaic River lies above the Fall Line. The Fall Line is the boundary between the crystalline rocks of the Piedmont and the sediments of the Atlantic Coastal Plain. Because of this, the United States Geological Survey (USGS) considers the river to be a noncoastal drainage basin. Tidal elevations for the Passaic River at Newark are reported by the National Oceanic and Atmospheric Administration (NOAA). The mean tidal range reported by NOAA is 5.1 feet.

3.4 GEOLOGY

The site is located in the Triassic Lowland section of the Piedmont Physiographic Province. This province is located between the Atlantic Coastal Plain and the Valley and Ridge Province. In New Jersey, the Triassic Lowland section is underlain by igneous and sedimentary rocks of Triassic-Jurassic Periods. The igneous rocks in the section are generally more resistant and form hills and ridges while the sedimentary rocks occur in the low areas. The section is characterized by rounded ridges separated by wide valleys and isolated hills which rise abruptly above the surrounding landscape.

The bedrock of the Triassic Lowland consists of igneous and sedimentary rocks of Triassic-Jurassic period, known as the Newark Supergroup. These rocks accumulated in the Newark Basin, a fault-controlled structural basin believed to be one of the numerous parallel and subparallel basins which formed as a result of the rifting apart of the continental plates at the time of the formation of the Atlantic Ocean plates which created the parallel ridges separating the Newark Basin from the Atlantic Ocean Basin. Subsequent intrusion of basaltic lava formed dikes and sills through the sedimentary profile.

Sediments accumulated in the Newark Basin on an unconformity of Paleozoic and Precambrian basement rock. Basic igneous rocks were intruded into the sediments and extruded into the sediments during the period of deposition.

The Newark Basin is bounded on the northwest by the Ramapo Border Fault. This fault is a normal fault which separates the Precambrian rocks of the highlands from the Triassic-Jurassic rocks of the lowlands. During the period of deposition and active tectonics, downdropping of the basin continued along the fault. As a result, the rocks in the basin generally dip 10 degrees to the northwest. The oldest exposed formations are seen along the eastern edge of the basin and the youngest rocks are seen along the western edge at the fault.

The bedrock underlying the site is the Passaic Formation. This formation is more commonly known as the pre-basalt portion of the Brunswick Formation. This formation consists chiefly of soft red shales and sandstones.

Approximately 15,000 years ago, the area around the site was probably part of a delta before being submerged beneath Lake Hackensack. The lake was fed by a retreating ice sheet to the north, dammed by a terminal moraine on the south, and confined between two erosional remnant ridges. About 10,000 years ago, the terminal moraine damming the lake was breached, resulting in the drainage of the entire body of water. The lake bed left behind developed into a flatland forest and a meadow now called the Hackensack Meadows.

The Hackensack Meadows lies between the First Watchung Mountain and the Palisades Ridge (Lovegreen, 1974), and is a physiographic feature formed by sediment deposition in the bottom of the extinct glacial Lake Hackensack. The sediments consist of deposits of till, some varved clays, glaciofluvial sands and gravels, and glacio-lacustrine deltas (Salisbury, 1902; Lovegreen, 1974; Averill et al., 1980; Agron, 1980). Since the last glaciation, sea level has risen such that today Hackensack Meadows is a tidal marsh. The marsh is drained by the Passaic River Estuary and the Hackensack River Estuary, and empties into Newark Bay.

The study area is located in the southwestern portion of the Hackensack Meadows. Borings installed as part of the past and present studies on the site and adjacent properties indicate that the study area is underlain by approximately seven feet of fill material, approximately 80 feet of glaciofluvial sands, and bedrock at a depth of approximately 104 feet BGS. It is estimated that the bedrock is several thousand feet thick.

3.5 HYDROGEOLOGY

The source of groundwater recharge in the study area is precipitation that does not run off the land surface to the streams or return to the atmosphere through evapotranspiration. This precipitation infiltrates the ground and moves through and is stored in geologic formations. Due

to the extensive amount of impervious surfaces in the study area, groundwater recharge is severely restricted. Geologic formations which can yield economically significant quantities of water to wells or springs are called aquifers. The regional aquifers in the vicinity of the site are the bedrock of the Brunswick Formation of Triassic age and the unconsolidated glaciofluvial sands and gravel deposits of Pleistocene age.

The principal source of groundwater in the Newark area are the rocks of the Brunswick Formation. The shales and sandstones are generally capable of sustaining moderate to large yields to wells. The unconsolidated Pleistocene sand and gravel deposits, although capable of sustained yields, are of somewhat limited extent in the vicinity of the site.

Groundwater in the rocks of the Brunswick Formation occurs under both unconfined and confined conditions. In the upland areas, the aquifer is generally unconfined. In the lowlands of the Hackensack Meadows, the aquifer is generally considered to be confined or semi-confined by glacio-lacustrine clay. Where the aquifer is confined by relatively impermeable layers, it was originally under artesian pressure. In parts of Newark, extensive pumping has actually dewatered parts of the bedrock aquifer such that it no longer behaves as a confined aquifer.

The groundwater moves in the bedrock both vertically and horizontally from zones of secondary porosity through systems of interconnected joints and fractures. Most wells penetrate more than one water bearing zone, but the boundaries of the zones have not yet been accurately defined. Some wells penetrate from 400 feet to 600 feet BGS to reach these zones. The best producing wells, however are generally 300 feet to 400 feet deep. The bedrock aquifer in the site area has been found to be anisotropic indicating that water moves more readily along joints and fractures which strike parallel to the strike of the bedding. The strike of bedding, in the site area is generally N 30° E.

The Pleistocene glaciofluvial sands and gravels constitute an aquifer of limited extent. In the site area, these materials occur as valley fill deposits occupying buried bedrock valleys. The sands and gravels are generally interlayered with till and clays which reduce their total

permeability. However, where layers of coarse sand and gravel are encountered, wells yielding 175 to 600 gallons per minute (gpm) have been developed. Unfortunately, pumping from this aquifer has also been in excess of fresh water recharge and, as a result, salt water intrusion is occurring (IT).

Groundwater yields from the Brunswick Formation range from 35 to 820 gpm for the shales and sandstones and from 7 to 400 gpm for the Orange Mountain Basalt. Specific capacities of the wells in the shales and sandstones range from 0.2 to 70 gpm per foot of draw down. Specific capacities of wells in the basalt range from 0.05 to 5.66 gpm per foot of drawdown.

3.5.1 Ground Water Quality

Although the water quality of the bedrock aquifer is generally considered to be good, salt water intrusion has occurred as a result of the heavy pumping in this industrialized area (IT). In 1879, analysis of a groundwater sample from this vicinity showed 6.2 ppm chloride. In 1948, a groundwater sample showed 1900 ppm chloride.

The heavy pumping has lowered water levels in the area over the last 100 years. In eastern Newark, adjacent to Newark Bay and the Passaic River, the water levels by the year 1900 had been pumped to 40 to 130 feet BGS. Continued pumping in the 1900's has lowered the water level even further. In 1879, evaluation of wells in the site vicinity showed groundwater levels from a few feet above to 25 feet BGS. The heavy pumping has reversed the natural gradients in this vicinity and the dredging of the shipping channels in Newark Bay and the Passaic River has exacerbated the salt water intrusion problem by removing part of the barrier between the ground and surface waters (Nichols, 1968).

Groundwater wells within a one mile radius of the site were identified through permit records on file with the NJDEPE. Table 5 presents the identified wells and their locations along with the relevant information obtained from the well permits.

There are six wells within a one mile radius of the CWMNJ Newark facility. Three separate companies each own two wells which are used for industrial purposes. The nearest well is 0.4 mile from the CWMNJ Newark facility. All of the wells are completed in the Brunswick Formation with the well depths ranging from 165 feet to 700 feet BGS.

3.6 DEMOGRAPHY AND LAND USE

The portion of Newark where the site is located has been used by industry for over 100 years. The Newark Master Plan (1978) designates the area in which the site is located as "heavy industry." On the Master Plan, the site is located in Plan Area Five, designated "Newark Airport - Port Newark". The industrial land use objectives of the Newark Master Plan are identified as follows:

- Encourage the reuse and recycling of sound industrial facilities;
- Provide adequate supplies of industrial land uses which, in turn, will generate a broad range of job opportunities within the community;
- Concentrate heavy industrial land use in the Meadowlands area; light industrial uses in both the Ironbound and the Triangle area (the area generally defined by Mulberry Street, Market Street and McCarter Highway); and,
- Allow for the controlled expansion of industrial development within areas where growth is now restricted due to incompatible abutting land uses.

The closest land area zoned for residential use in Newark is approximately one-quarter mile from the site.

3.7 ECOLOGY

The land in the vicinity of the site consists of tidal marsh and built-up land which is classified primarily as industrial. The terrestrial ecology of the natural environment is restricted to the tidal marsh, which has been modified by its proximity to the urban industrialized area. The

industrialized area consists of a considerable number of buildings and an extensive amount of paved surface with very little exposed ground available to support flora or fauna (IT).

Vegetation in the tidal marsh is primarily Phragmites australis (common reed), plus other wetland species such as Typha augustifolia (cattail) and Scirpus americana (bulrush). The terrestrial animals expected to be found in the immediate vicinity are likely to include various ground feeding birds, eastern cottontail rabbits, and other small mammals such as the meadow vole. In the open marsh, muskrats are common and reptiles such as the garter snake and American toad are also present (IT).

No unique or endangered species or habitats are known to occur at the site or in the surrounding vicinity (IT).

Information obtained from the New Jersey Department of Health and the NJDEPE/Office of Science and Research indicates that fishing in the Passaic River in the vicinity of the site has been prohibited. A prohibition on the sale and consumption of all fish and shellfish from the area between Dundee Dam and Newark Bay has been in effect since 1983. In addition, signs prohibiting fishing have been posted on the Passaic River. It is reported that recreational crabbing occurs periodically in the vicinity of the site (IT).

In 1982, an advisory was issued limiting consumption of selected fishes from Newark Bay. These fishes included the American eel, white catfish, white perch, striped bass, and the blue crab. No prohibition on sale and consumption of these fish and shellfish has been issued to date (IT).

No known commercial fishing is presently being conducted in Newark Bay, but periodically, during certain seasons of the year, considerable recreational crabbing reportedly occurs.

SECTION 4.0 SITE CHARACTERIZATION FINDINGS

4.1 SITE GEOLOGIC DESCRIPTION

The site geology was characterized by:

- Review of published regional and local geologic data;
- Installation of 27 soil borings of which 25 were sampled;
- Installation of 3 monitoring well borings; and,
- Historical boring data (CWMNJ railroad siding borings, Hilton Davis site study, and Diamond Shamrock site study).

Based on the above listed information, cross sections A-A', B-B', and C-C' were developed. These cross sections are provided on Figures 7 through 9. The plan location of these cross sections is shown on Figure 6.

Historical boring data for the CWMNJ facility and the adjacent properties have identified four primary subsurface stratigraphic units. These units include:

- Surficial fill;
- Organic silt layer (meadow mat);
- Glaciofluvial Sand; and,
- Shale/Sandstone.

While these stratigraphic units are generally consistent across the study area, lateral variations in material composition and lenses of variable material have been noted.

4.1.1 Fill

The historical record indicates that fill materials were placed in the marsh areas along the Passaic River in order to raise the land surface to a useable grade. The fill material is a heterogeneous mixture of coal ash, brick fragments, concrete fragments, slag, gravel, sand and silt. The fill material ranges in thickness from approximately two feet to 7.5 feet. The fill is present throughout the CWMNJ site.

4.1.2 Silts (Meadow Mat)

An organic silt layer referred to locally as "meadow mat" underlies the surficial fill. Two samples of the meadow mat were collected and submitted to a geotechnical testing laboratory for a grain size distribution analysis. The sample collected from the MW-1 boring, at a depth 10 feet to 12 feet BGS, was described as a grey silt, some sand and clay, organics. The sample collected from the MW-3 boring, at a depth of seven feet to nine feet, was described as a brown sand, some gravel and silt, little clay, organics. The meadow mat was not encountered in the borings at MW-2 and Lister-S1. It is not clear if the absence of the meadow mat is a natural or man-made occurrence.

4.1.3 Glaciofluvial Sands

Glaciofluvial Sands underlie the meadow mat. These sediments were transported by glacial meltwaters and were hydraulically sorted prior to deposition. This has produced discontinuous layers and lenses of clays, silts, sands and gravels as can be observed on geologic cross-section C-C'.

A sample of this stratum was collected and submitted for a grain size distribution test. The sample collected from the MW-2 boring, at a depth of 12 feet to 15 feet BGS, was described as an organic sand with a trace of silt, clay and gravel, organics.

None of the on-site borings extended to bedrock. Because of this, the exact thickness of the glaciofluvial sand unit beneath the site is not known. Borings installed on the Diamond Shamrock property suggest that the thickness of the glaciofluvial sands is approximately 90 feet. The glaciofluvial sands are believed to be present throughout the site.

4.1.4 Bedrock (Passaic Formation)

Test borings at Diamond Shamrock encountered bedrock at a depth of approximately 100 feet BGS. The rock consists of interbedded shales and sandstones which are commonly referred to as the prebasalt phase of the Brunswick Formation.

4.2 HYDROGEOLOGIC CONDITIONS

4.2.1 Diurnal and Tidal Measurements

An Insitu Well Sentinel was used to collected measurements of water level changes in the Passaic River for a period of 46.3 hours on August 18-20, 1993. The data showed a maximum tidal fluctuation of 6.634 feet during the period. A graph of the change in the river surface versus the elapsed time is shown on Figure 10. The Well Sentinel data file is presented in Appendix C.

An Insitu Well Sentinel collected measurements in monitoring well MW-3 for 46.45 hours on August 18-20, 1993. The data showed a reduction of 0.203 feet in the water level over the period of the test. A graph of the change in head versus elapsed time is shown on Figure 10. The Well Sentinel data file is presented in Appendix C.

When the data from MW-3 was compared with the data collected from the Passaic River, no tidal relationship was observed. Figures 10 and 11 illustrate the hydraulic conditions and relationship between groundwater and surface water in the study area. Groundwater flows towards the Passaic River at the Hilton Davis property and on the north side of the groundwater

mound at the Diamond Shamrock property. The mean river elevation of the Passaic River is approximately 2.5 feet above MSL. The river elevation at high tide is approximately 5.5 feet MSL. Therefore, the positive hydraulic head created by the river at high tide is only sufficient to cause a groundwater flow reversal in the fill water zone within a few hundred feet of the river bank.

The relationship of Passaic River water levels and groundwater levels was also investigated during the Diamond Shamrock and Hilton Davis site studies. At both properties, tidal influence was only observed in groundwater monitoring wells that were located adjacent to the river.

4.2.2 Site Hydrogeologic Description

The site hydrogeology was characterized by:

- Review of published reports and hydrogeologic data from the site studies performed at Diamond Shamrock and Hilton Davis;
- Three monitoring well installations;
- Water level measurements;
- Hydraulic conductivity tests; and,
- Tidal measurements in the Passaic River.

Based on the above listed information, there are three principal groundwater zones present beneath the site. They are:

- An unconfined unit in the fill material;
- A semi-confined unit in the glaciofluvial sands; and,
- A semi-confined to confined unit in the Brunswick Shale.

4.2.2.1 Groundwater Levels

Fill

Five rounds of groundwater elevations were collected from monitoring wells MW-1, MW-2, MW-3 and HDMW-6 from June through September 1993. The groundwater elevation data are presented in Table 6.

Monitoring was conducted to determine if there was any communication between the fill water zone and the Passaic River. No tidal relationship was observed between the Passaic River and monitoring well MW-3. The historical information indicates that a tidal relationship can be observed in monitoring wells directly adjacent to the Passaic River. It was also indicated that the relationship decreases as the distance from the river increases.

Glaciofluvial Sands

Monitoring well MW-2 was the only well that intersected the glaciofluvial sands. This limited information does not provide much understanding of the horizontal flow regime, but it does indicate a downward flow between the fill zone and the glaciofluvial sand zone. This relationship was also seen at Diamond Shamrock.

Bedrock

None of the on-site monitoring wells were installed in this unit. There were no monitoring wells installed into bedrock at the Diamond Shamrock and Hilton Davis sites either. Therefore, the bedrock piezometric surface in the study area is unknown.

4.2.2.2 Hydraulic Conductivity

Displacement tests were performed in monitoring wells MW-1, MW-2 and MW-3 to determine the hydraulic conductivity within the ground water zones penetrated by each well. It should be noted that monitoring wells MW-1 and MW-3 are screened in the fill material and partially in the meadow mat. The data collected from these tests were evaluated using the Bouwer-Rice and Hvorslev methods. The calculated hydraulic conductivity values are presented in Table 7. The hydraulic conductivity data is included in Appendix C.

Fill (MW-1 and MW-2)

As determined by the Bouwer-Rice and Hvorslev methods hydraulic conductivity at MW-1 ranged from 1.1×10^{-4} cm/sec to 5.6×10^{-4} cm/sec and from 1.5×10^{-3} cm/sec to 4.4×10^{-4} cm/sec; and at MW-3 from 2.3×10^{-3} cm/sec to 3.9×10^{-3} cm/sec and from 8.6×10^{-3} cm/sec to 1.2×10^{-2} cm/sec respectively.

Similar hydraulic conductivities were cited in the Hilton Davis and Diamond Shamrock reports.

Glaciofluvial Sands (MW-2)

As determined by the Bouwer-Rice and Hvorslev methods, hydraulic conductivity at MW-2 ranged from 4.1×10^{-3} cm/sec to 4.9×10^{-3} cm/sec and from 7.5×10^{-3} cm/sec to 3.7×10^{-2} cm/sec respectively.

4.2.2.3 Groundwater Flow

4.2.2.3.1 Fill

In order to enhance the groundwater data collected during the RI, it was correlated with historical groundwater elevation data from the Hilton Davis and Diamond Shamrock properties.

While this does not provide a specific point in time representation of the phreatic surface, it does facilitate the determination of the overall groundwater flow direction in the study area. There have been no major modifications (e.g. creation of new impervious surfaces) to land conditions in the study area during the time period when the historical water level data were collected. Therefore, the general groundwater flow direction should remain unchanged. The composite phreatic surface map is presented on Figure 11.

Figure 11 shows the groundwater flow directions across the study area. Groundwater is primarily flowing from the east-southeast towards the Passaic River. However, there are two local distortions in the groundwater flow direction that are evident on the Diamond Shamrock and CWMNJ properties. The Diamond Shamrock site study identified an east-west oriented groundwater mound across the center of the site. The Diamond Shamrock study report attributed the mound to poor surface drainage. The effects from the groundwater mounding have been observed in the CWMNJ monitoring well MW-3, where the phreatic water surface indicates groundwater flow from the north toward the CWMNJ property.

The other local distortion to the overall groundwater flow direction is created by the absence of the meadow mat layer in the southwest corner of the CWMNJ property. This condition combined with the downward gradients to the underlying glaciofluvial sand unit is directing groundwater flow from the north and east towards this portion of the CWMNJ facility. The extent of off-site influence from the subsurface conditions in this facility area cannot be determined from the existing data.

4.2.2.3.2 Glaciofluvial Sands

Monitoring well MW-2 is the only on-site monitoring well that has intercepted this unit. The information gained from this well is of limited value when determining horizontal flow rates and gradients. The groundwater elevations indicate that a downward gradient exists between the fill water zone and the glaciofluvial water zone. The absence of the meadow mat aquitard provides the communication between the fill and the glaciofluvial water zones.

4.3 DATA VALIDATION SUMMARY

All of the analytical data that was generated during the performance of the RI was reviewed by qualified project personnel to ensure that quality assurance was maintained in accordance with the provisions of the Quality Assurance Project Plan and that the data were valid. The data were validated or qualified according to the general guidance provided in the Laboratory Data Validation Functional Guidelines for Evaluating Organic (and Inorganic) Analyses (USEPA 6/91 and 7/88). The data validation report is presented in Appendix D along with the analytical data summary packages.

The analytical data was generally of acceptable quality. Some of the data were rejected because of detections of the same parameter in laboratory blanks. Other data were qualified as estimated concentrations as a result of recoveries outside of QC limits, etc. However, overall the organic and inorganic analyses were performed acceptably.

4.4 NATURE AND EXTENT OF CONTAMINATION

The RI at the CWMNJ Newark facility focused on defining the nature and extent of soil and groundwater contamination in accordance with the approved RI Work Plan. Based on the results of studies performed in the surrounding area (Diamond Shamrock, Hilton Davis, etc.), the industrial history of the area, and the data from the soil sampling performed at the CWMNJ Newark facility as part of site upgrades, some degree of soil and groundwater contamination was expected.

The soil quality characterization was directed at defining the potential impacts from facility areas of concern. These areas included the:

- 100, 500 and 700 series tank farms and reactor areas;
- Northwest facility corner adjacent to the Diamond Shamrock dioxin site;

- Truck loading/unloading areas;
- The area where buried railroad tank cars were previously used for waste storage;
- Filter press building; and,
- Downgradient from the closed in-place diesel fuel tank.

The groundwater characterization was directed at defining conditions in the shallow, surficial water zone. Three monitoring wells were installed in the southeast, southwest and northwest facility areas. A fourth monitoring well, located at the Hilton Davis property immediately north of the north-central portion of the CWMNJ Newark facility, was incorporated into the monitoring well network through a cooperative agreement with the Hilton Davis Owners. Two rounds of groundwater sampling were conducted.

The site characterization defined localized areas of soil contamination. However, a site wide pattern of significant contamination was not evident. At several sample locations the concentrations and the nature of the contaminants were substantially different from adjacent sample locations. Moreover, the documented contamination in the fill material that was placed across the site and surrounding area and the previous site uses limited the ability to separate potential contributions from the CWMNJ Newark facility from pre-existing conditions. The soil sample analytical data are summarized in Table 8. The analytical data summary packages are included in Appendix D.

The two rounds of groundwater sampling that were performed during the RI did not identify any significant pattern of contamination that could be attributed specifically to the CWMNJ Newark facility. In most instances, the highest detections of contaminants were found in monitoring well MW-1 which is an upgradient well. Therefore, groundwater flowing towards the CWMNJ Newark facility is contaminated. The ground water sample analytical data are summarized in Table 9. The analytical data summary packages are included in Appendix D.

The RI did not define any continuous pattern of contamination across the entire facility. The most significant contamination detected was related to concentrations of pesticides in the site soils in some facility areas. The highest levels of pesticide contamination were generally found in the southeastern portion of the property. In almost every instance, in excess of 95 percent of the pesticide detections were related to alpha, beta, delta and gamma BHC's, and DDD, DDE and DDT. The production of DDT and its metabolites DDD and DDE was banned in 1972.

Organic and inorganic contaminants were detected in the central facility area adjacent to the truck loading and unloading areas. The soil samples were collected in the central driveway near the entrance to each loading and unloading area. These locations were approved by NJDEPE in order to avoid penetrating the truck loading area secondary containment structures. In general, VOC's, semi-VOC's, arsenic and lead were detected at higher concentrations in this site area. In the other potential site areas of concern, some individual sample locations had concentrations primarily of a single group of compounds (e.g., semi-VOC's), while adjacent locations did not evidence similar levels and/or compounds.

4.4.1 Potential Areas of Concern

The analytical data for each potential facility area of concern is discussed below. The total concentrations of VOC's, semi-VOC's and pesticides are presented in Table 10 and shown on Figures 12 through 14.

4.4.1.1 100 Series Tank Farm

Four soil samples were collected along the north and west sides of the 100 series tank farm containment area. The Benjamin Moore property abuts the east side and the abandoned in-place UST is located along the south containment wall. Soil sample 100-S3 had a total VOC concentration of 8.5 ppm. Xylenes (3.5ppm), chlorobenzene (1.9 ppm) and 2-butanone (1.4 ppm) were the predominant compounds. This sample also had a total semi-VOC concentration of 1,296 ppm. Naphthalene (130 ppm), 2-4methylnaphthalene (370 ppm), 2,4-dinitrophenol (270

ppm), 2,4-dimethyphenol (72 ppm) and 1,2,4-trichlorobenzene (89 ppm) were the predominant semi-VOC constituents. Lead was detected in this sample at 652 ppm and 973 ppm in sample 100-S1. A total concentration of pesticides of 10,358 ppm was detected in sample 100-S1. This sample had the second highest total concentration of pesticides detected at the site. The highest total pesticides detected was in sample ABUST-S1 (20,008 ppm) which was obtained approximately 30 feet south of sample 100-S1. The organic and inorganic concentrations in the other 100 series soil samples were consistent with the general overall site detections.

The soil sample data for the 100 series tank farm does not have a pattern of detections which suggests that this potential area of concern is a source of contamination. Sample 100-S1 had the only significant pesticide detections and sample 100-S3 had the only significant semi-VOC detections. The concentrations of other groups of organic compounds at all of the 100 series sample locations, were low and relatively consistent. This indicates that there are isolated pockets of contamination that are probably related to the fill material.

The 100 series tank farm area of concern does not warrant any remedial actions. The facility area immediately south-southwest of the tank farm has soil pesticide contamination that requires remediation in the narrow context of exceeding the soil cleanup criteria for total organic compounds. However, due to the similar conditions in the study area, the absence of direct human health and environmental risk, and the logistical constraints associated with the close proximity of major structures and supporting foundations, a remediation in this site area is not reasonable.

4.4.1.2 500 Series Tank Farm

When the concrete floor of the 500 Series Tank Farm was penetrated, as a precursor to soil sampling, groundwater was encountered at two of the three sample locations. After conferring with the NJDEPE case manager, an aqueous sample was collected at one location (500-S1) and a soil sample was collected at the one location where groundwater wasn't encountered (500-S2).

Two soil samples were also taken outside the containment area along the southern perimeter (Lister S1 and S2) and two along the eastern perimeter (Truck S1 and S2).

With the exception of VOC's in soil sample 500-S2 and semi-VOC's in aqueous sample 500-S1, all other parameters at the 500 series sample locations had low concentrations. Soil sample 500-S2 had a total VOC concentration of 62.9 ppm. The detected VOC's were xylene (38 ppm), ethybenzene (7.4 ppm), benzene (7.9 ppm), toluene (8.5 ppm) and chlorobenzene (1.1 ppm). Aqueous sample 500-S1 had a total concentration of semi-VOC's of 614 ppm which was due to concentrations of phenol and related compounds.

There is no evidence of substantial contamination at the 500 Series Tank Farm or a pattern to the contaminants that were detected. The two samples (500-S1 and 500-S2) from the interior area of the tank farm are located approximately 25 feet apart. Sample 500-S1 had semi-VOC contaminants while sample 500-S2 had VOC contaminants. This indicates isolated areas of somewhat dissimilar organic compounds contained in separate environmental media. The perimeter samples also exhibited considerable variation between detections and concentrations.

The environmental conditions defined at the 500 series tank farm do not indicate that any further actions at this facility area of concern are necessary.

4.4.1.3 700 Series Tank Farm

Three soil samples were collected in the former 700 series tank farm area. Soil sample 700-S2 had a total VOC concentration of 166 ppm, which was related to xylenes (160 ppm), a total semi-VOC concentration of 49 ppm and a total pesticide concentration of 92 ppm. The organic and inorganic compound concentrations at the other two sample points which are located within 25 feet of sample 700-S2, were considerably less than those detected at sample location 700-S2. This indicates an isolated pocket of contamination in the center of the former 700 series tank farm.

The predominant contaminant detected in this facility area of concern was xylenes. The xylene concentration was well below the soil cleanup criteria for this compound. No additional activities are required at this facility area of concern.

4.4.1.4 Truck Loading/Unloading Areas

Soil samples were collected adjacent to the top of the ramps at Truck Loading/Unloading areas B, C, D, and F. Soil samples 100-S1 and 100-S2, obtained at the 100 series tank farm, are also in the area of Truck Unloading Area A. Truck Unloading Area E is restricted to non-hazardous materials and therefore was not sampled.

The soil samples from Truck Loading/Unloading areas B, C, D and F contained concentrations of organic and inorganic constituents that were generally above the levels observed across the site. Sample Truck-S3 (Area B) had total VOC and semi-VOC concentrations of 348 ppm and 488 ppm respectively; a total of 208 ppm of the primary pesticides detected at the site, 25 ppm of Aroclor 1248, the only PCB detected at the site, and a lead detection at 1330 ppm. The analytical quality assurance review rejected the lead detection in this sample and the other truck area samples. The principal VOC contaminants were xylenes, ethylbenzene and chlorobenzene. Sample Truck-S3 also had a tetracholoroethene concentration of 23 ppm. Soil sample Truck-S5 (0.5 foot-2.5 feet), which was obtained at Area D, had total VOC and semi-VOC concentrations of 63 ppm and 7428 ppm respectively; 107.4 ppm of the principal pesticides detected; and arsenic and lead at 43 ppm and 428 ppm respectively. Soil sample truck-S5 (2.5 feet-4.5 feet) had approximately the same concentrations of these parameters. Soil sample Truck-S6 (Area F) had a total VOC concentration of 106 ppm and an arsenic concentration of 438 ppm. A blind duplicate sample (Truck-S7) had slightly lower concentrations of organic constituents, but higher concentrations of arsenic at 1030 ppm and lead at 3490 ppm. The analytical quality assurance review rejected the lead detection in this sample. Sample Truck-S4 (Area C) had a total semi-VOC concentration of 161 ppm and a lead concentration of 599 ppm. The detections of semi-VOC's included 4-chloroaniline, the isomers of dichlorobenzene, bis (2-ethylhexyl) phthalate,

2-methylnaphthalene and 1,2,3-trichlorobenzene. DDD was detected in samples Truck-S3, S4 and S5. Soil sample Truck-S6 had the lowest pesticide concentrations on site.

Soil sample Truck-S3, which was obtained at Truck Loading/Unloading Area B, had a more uniform pattern of organic compound detections than was observed at the other site areas of concern. This may reflect a former site use in this facility area since these conditions were not detected at other facility areas. The concentration of semi-VOC's at Truck Loading/Unloading Area D (soil sample Truck-S5) were the highest detected at the site. The absence of similar concentrations at other facility areas of concern indicates the semi-VOC contamination is probably related to a pocket of contaminated fill material. Truck Loading/Unloading Areas C and F (Samples Truck-S4 and Truck-S6, respectively) had contamination detections related primarily to semi-VOC's which suggests that the contaminants are related to the fill material.

The concentrations of the organic compounds identified in this general site area are within the soil cleanup criteria for total organic compounds. There would be no benefits gained by removing a portion of the fill material at Truck Loading/Unloading Areas B and D since similar conditions prevail throughout the study area.

4.4.1.5 Former Buried Railroad Tank Car Area

The two soil samples (GH-1 and GH-2) obtained in the former Buried Railroad Tank Car Area did not exhibit any contamination. This apparently reflects the quality of the imported fill material that was used to backfill the excavation after the tank cars were removed.

4.4.1.6 Closed In-Place Underground Storage Tank Area

One soil sample (ABUST-S1) was collected northwest of the abandoned in-place diesel fuel UST at the request of the NJDEPE. The sample had a concentration of the primary pesticides detected at the site at 19,941 ppm; and a lead detection at 1650 ppm. The pesticide concentration is related almost solely to DDT at 17,000 ppm and alpha-BHC at 2200 ppm. The

pesticide detection in this sample is completely unrelated to the UST. The UST was originally used by SCA as a fuel oil tank for a boiler. The detection of pesticide concentrations in sample 100-S1 located approximately 30 feet away, indicates a localized area of pesticide contamination in this facility area.

As previously stated, this general site area could be considered for soil remediation. However, in view of the similar conditions that prevail throughout the study area, there would be no significant changes to existing conditions.

4.4.1.7 SAL Sump/Reactor Area

Soil sample Lab-S1 and a blind duplicate sample Lab-S2 were collected west of one of the reactors near the sump for the SAL area. Sample Lab-S1 contained 28.4 ppm of total VOC's, primarily toluene at 7.9 ppm, and chlorobenzene at 2.3 ppm; a total semi-VOC concentration of 28.4 ppm and moderately high pesticide concentrations; primarily DDT at 2100 ppm. Sample Lab-S2 generally had similar parameter concentrations. The pesticides detected at this sample location may be an extension of the area located to the southeast where higher concentrations were detected.

The concentration of total organic compounds in the soil in this facility area are below the soil cleanup criteria limit. Therefore, this facility area does not warrant any additional activities.

4.4.1.8 Filter Press Building

Soil sample FP-S1 was collected near a sump on the south side of the filter press building and sample FP-S2 was collected on the west side of the building. Soil sample FP-S1 had a few low concentrations of VOC's, a total semi-VOC concentration of 33 ppm and pesticide detections related primarily to alpha-BHC at 55 ppm and DDD at 140 ppm. Soil sample FP-S2 had a total VOC concentration of 35.6 ppm, related primarily to chlorobenzene at 29 ppm; a total semi-VOC concentration of 136.4 ppm, related primarily to di-n-octyl phthalate at 73 pm and 1,2,4-

trichlorobenzene at 35 ppm; and a total pesticide concentration of 1952 ppm related mainly to DDT at 1600 ppm. The pesticide concentrations at sample location FP-S2 are above the detections at other sample locations in this facility area. The pesticide detections apparently reflect a localized area of contamination.

The analytical data do not indicated that any other activities are necessary at the filter press building.

4.4.1.9 Dioxin Area

Two soil samples for dioxin analysis were obtained from the small paved area at the northwest corner of the CWMNJ Newark facility that is adjacent to the Diamond Shamrock property. Dioxin was not detected in either sample.

4.4.2 Groundwater Quality

Monitoring well MW-1 and Hilton Davis Well MW-6 (HDMW-6) exhibited the most detections and the highest concentrations of several parameters, primarily related to VOC and semi-VOC organic compounds. Monitoring well MW-1 is hydraulically upgradient of the CWMNJ Newark facility. Therefore, the organic and inorganic compounds detected in this well are from off-site sources. The Hilton Davis well HDMW-6 also receives groundwater flow from an easterly direction. Therefore, the water quality in this well may also be influenced by off site sources. Monitoring Well MW-2, located in the southwest corner of the facility where the meadow mat is absent, had very few detections of interest. This well receives groundwater flow from a substantial portion of the CWMNJ Newark facility. Monitoring well MW-3 had detections of arsenic and lead, and a few detections of VOC's. Monitoring well MW-3 is downgradient from the Diamond Shamrock site due to the ground mounding that has been defined at Diamond Shamrock. Therefore, the water quality in this well reflects off-site conditions.

The following subsections present the results of the groundwater quality characterization which are discussed by each class of compounds. Where applicable, the data for the initial sampling round is presented followed by data for the second sampling round. As previously discussed, the initial sampling of HDMW-6 did not occur until July 7, 1993. The analytical data are presented in Table 9.

4.4.2.1 Volatile Organic Compounds

Monitoring well MW-1 had detections of acetone, (84 ppb and 33 ppb) 1,2 dichloroethane (9 ppb and ND) , benzene (640 ppb and 390 ppb), toluene (86 ppb and 30 ppb), chlorobenzene (250 ppb and 300 ppb) and xylenes (25 ppb and 8 ppb). There were also detections of 4-methyl-2-pentanone (2 ppb) and ethylbenzene (1 ppb) during the second sampling event. Hilton Davis monitoring Well HDMW-6 had detections of acetone (12 ppb and 7 ppb), 1,2 dichloroethane (1 ppb and 2 ppb), benzene (69 ppb and 42 ppb), toluene (0.9 ppb and ND), chlorobenzene (900 ppb and 490 ppb), and xylenes (12 ppb and 2 ppb). Monitoring well HDMW-6 also had low concentrations of ethylbenzene (19 ppb and 2 ppb) and 1,2-dichloroethene (0.7 ppb and ND).

Monitoring well MW-2 had detections of trichloroethene and chlorobenzene (each at 2 ppb) during the first sampling event. There were detections of acetone (5 ppb), and chlorobenzene, carbon disulfide and trichlorethene (each at 2 ppb) during the second sampling event. Monitoring well MW-3 had low concentrations of benzene (2 ppb and ND), chlorobenzene (11 ppb and 9 ppb), xylenes (2 ppb and ND) and tetrachloroethane (ND and 1 ppb).

4.4.2.2 Semi-Volatile Organic Compounds

There were no valid detections of semi-VOC's in monitoring well MW-2 during the initial sampling event. Butyl benzyl phthalate was detected at 2 ppb during the second sampling event. Bis-(2-ethylexiyl) phthalate was detected during both events and also in the blank samples.

Monitoring wells MW-3 and HDMW-6 had detections of the isomers of dichlorobenzene during both sampling events. They were also detected in MW-1 during the first sampling event. The concentrations were approximately the same in wells MW-1 and 3, and slightly higher in HDMW-6. Dimethyl phthalate (83 ppb and 57 ppb), and 2,4-dimethylphenol (74 ppb and 62 ppb) were only detected in monitoring well MW-1. Concentrations of 4-chloroaniline (950 ppb and 2,000 ppb) were detected only in monitoring well HDMW-6. The compound 1,2,4-trichlorobenzene was detected in monitoring wells MW-1 (69 ppb and 8 ppb) and MW-3 (8 ppb and 5 ppb). Several other compounds were detected at low concentrations in various monitoring wells. Phenol was detected at 80 ppb only during the second sampling event in monitoring well MW-1.

4.4.2.3 Pesticides/PCBs

Several pesticides were detected in all of the CWM groundwater monitoring wells during both sampling events. They were detected in Hilton Davis's well HDMW-6 only during the second event. Several detections were qualified as also being present in the blank samples. There were no PCB detections in any of the samples.

In general, there were no definitive patterns to the pesticide detections. The concentrations of the parameters were generally higher in the upgradient well (MW-1). Some of the individual parameters were detected only during one of the sampling events, and there was considerable variation in concentration between sampling events. The pesticides detected included alpha and beta BHC, heptachlor, heptachlor epoxide, aldrin, endosulfan, dieldrin, endrin and 4,4-DDD.

4.4.2.4 Inorganics

Monitoring wells MW-1 and MW-3 generally had the highest concentrations of inorganic compounds during both sampling events. Monitoring well MW-3 evidenced detections of arsenic and lead. Concentrations of sodium were detected in monitoring wells MW-1 and HDMW-6.

Arsenic was detected in all of the monitoring wells except MW-2. Arsenic was detected in monitoring well MW-3 at 305 ppb and 225 ppb during the first and second sampling events. Monitoring well MW-3 also had the highest lead detections at 3020 ppb and 98.5 ppb. The lead detection in monitoring well MW-3 during the first sampling event is suspect given the value obtained during the second sampling event. The sodium concentrations in monitoring wells MW-1 and HDMW-6 were an order of magnitude greater than the concentrations in the other two wells. The sodium concentration in monitoring well HDMW-6 was the highest site detection during the first sampling event at 613,000 ppb and in MW-1 during the second event at 524,000 ppb.

Cyanide was detected, at 372 ppb and 275 ppb, in monitoring well MW-2. The only other site detection was in MW-3 at 71 ppb and 20 ppb.

4.5 CONTAMINATION VERSUS NJDEPE CLEANUP CRITERIA

The contaminants identified at the CWMNJ Newark facility have been compared with the cleanup criteria established by NJDEPE for soils under the proposed rule Cleanup Standards for Contaminated Sites, N.J.A.C. 7:26D; and for groundwater under the Ground Water Quality Standards, N.J.A.C. 7:9-6. Soil data derived from the remedial investigation were reviewed against the criteria on an individual parameter basis, and on an aggregate basis for total detections of applicable analyte categories. The groundwater data were reviewed against criteria for Class II aquifers. The Class II comparison was performed because the CWMNJ facility is not located in a designated Class III zone. However, the documented poor groundwater quality in the Newark Ironbound Section from industrial pollution and salt water intrusion requires the area to be considered a Class III zone to establish potential risk.

4.5.1 Soil Cleanup Criteria Comparison

Some of the soil samples had individual parameter concentrations that were above the soil criteria. In general, these parameters were associated with the pesticides, a few semi-volatile

organic compounds and several metals; primarily arsenic and lead. The soil samples locations and the parameters that exceeded the criteria are presented in Table 11.

4.5.1.1 Volatile Organic Compounds

Only one VOC exceeded the soil clean-up criteria. Soil sample Truck-S3 had a tetrachloroethane concentration of 23,000 ppb (criteria 6,000 ppb). However, the total VOC concentration at this sample location and all other sample locations were well within the 1,000 ppm criteria.

4.5.1.2 Semi-Volatile Organic Compounds

Benzo (a) pyrene was the only semi-VOC that exceeded the criteria at a number of locations. Most of the samples were associated with the 100 and 700 series Tank Farms, and the truck loading and unloading areas. Only sample 100-S3, with a benzo (a) pyrene concentration of 19,000 ppb, significantly exceeded the criteria of 660 ppb. The criteria for benzo (a) anthracene was also exceeded in sample 100-S3.

The cleanup criteria for hexachlorobenzene was exceeded at three sample locations (Truck-S3, Truck-S5 and Truck-S6). Sample Truck-S3 had the highest hexachlorobenzene concentration at 18,000 ppb (criteria 2,000 ppb). The compound 1,2,4-trichlorobenzene was exceeded only at sample location Truck-S5 in both the surficial and groundwater interface samples.

4.5.1.3 Pesticides/PCBs

The cleanup criteria for several pesticides were exceeded at a number sampling locations. The cleanup criteria for the pesticides 4,4-DDD, 4,4-DDE and 4,4-DDT were exceeded the most frequently. The sample locations that evidenced the highest pesticide concentrations included ABUST-S1, Lab-S1, 100-S1, and FP-S2.

The only site detection of PCBs occurred at sample location Truck-S3 (25,000 ppb) which also exceeded the cleanup criteria of 2,000 ppb.

4.5.1.4 Total Organic Compounds

The soil cleanup criteria of 10,000 ppm for total VOC's was exceeded only at sample locations ABUST-S1 (20,055 ppm) and 100-S1 (10,409 ppm). This was a direct result of total pesticide concentrations of 20,008 ppm in sample ABUST and 10,358 ppm in sample 100-S1.

4.5.1.5 Inorganic Compounds

The soil cleanup criteria for arsenic (2 ppm) was exceeded at 17 of the sample locations. Generally, the arsenic concentrations were less than 25 ppm. However, soil sample Truck-S6 had an arsenic concentration of 438 ppm. The criteria for lead (600 ppm) was exceeded at five locations. Sample locations ABUST-S1 (1650 ppm) and Truck-S3 (1330 ppm) had the highest lead concentrations. There was also a lead concentration above the soil cleanup criteria in sample Truck-S7 (3490 ppm) which was a blind duplicate sample for Truck-S6 (545 ppm). The criteria for antimony, beryllium, cadmium and copper were also exceeded at a few locations.

4.5.2 Groundwater Quality Standards Comparison

Monitoring well MW-1 had the greatest number of organic compounds above the New Jersey Class II groundwater quality standards. Both monitoring wells MW-1 and HDMW-6 had inorganic compounds above the standards. The criteria for cyanide was exceeded only in monitoring well MW-2. The groundwater sample locations and the parameters that exceeded the standards are presented in Table 12.

4.5.2.1 Organic Compounds

The groundwater quality standards for benzene and chlorobenzene were exceeded in monitoring wells MW-1 and HDMW-6. They were slightly above the standards in MW-3. Trichloroethene and 1,2 dichloroethane were slightly above the standards in monitoring wells MW-2 and MW-1 respectively.

Only two semi-VOC's were above the groundwater quality standards. The semi-VOC 1,4-dichlorobenzene was detected at 82 ppb (standard 75 ppb) in monitoring well HDMW-6 and 1,2,4-trichlorobenzene was detected at 69 ppb (standard 9 ppb) in MW-1.

Several pesticides were above the groundwater quality standards during either one or both of the sampling events. It is difficult to gauge whether or not this actually represents a potential continuing risk due to the presence of many of these compounds in blank samples and the substantial differences in concentrations of some compounds between sampling events. The parameters that exceeded the standards by the greatest margin were alpha-BHC, beta-BHC and heptachlor epoxide all of which occurred in monitoring well MW-1, the upgradient well.

4.5.2.2 Inorganic Compounds

Iron, manganese and sodium were above the groundwater quality standards in all of the monitoring wells during both sampling events. This reflects the natural poor water quality in the site area. Aluminum was also above the standard in all wells. Arsenic was above the standard in monitoring wells MW-1, MW-3 and HDMW-6. Lead was above the standard in monitoring wells MW-1 and MW-3. The concentrations of arsenic and lead were above the standards only in monitoring well MW-3. Cyanide was above the standard only in monitoring well MW-2.

4.6 BACKGROUND DATA COMPARISON

The data from the RI was compared with the data presented in the site evaluation report for the Diamond Shamrock property, and the ECRA Cleanup Plan Report for the Hilton Davis property in order to assess the environmental conditions at the CWMNJ Newark facility with respect to the conditions at the adjoining properties.

Only the shallow soils and groundwater data from the Diamond Shamrock investigation were reviewed. The site investigation at Hilton Davis focused only on the surficial soils and shallow groundwater zone. Limited soils data from other areas of Newark were also presented in the Diamond Shamrock report.

4.6.1 Soil Quality

Similar VOC's were identified at the CWMNJ and Diamond Shamrock properties. In general, the number of detections and concentrations of VOC's were less at the Hilton Davis property with the exception of chlorobenzene, ethylbenzene and toluene. The highest concentrations of VOC's were detected at Diamond Shamrock.

Concentrations of many semi-VOC's were identified in the fill material at all three properties at similar concentrations. This reflects the historic poor fill quality that was placed across the area. The background samples cited in the Diamond Shamrock report, which were obtained within a ten mile radius of the site, also exhibited moderate concentrations of bis(2-ethyhexyl) phthalate, naphthalene, fluoranthene, and high concentrations of hexachlorobenzene.

Soil samples for pesticide analyses were not taken at the Hilton Davis property. At the Diamond Shamrock property, the highest pesticide detections included 4,4-DDD, 4,4-DDE, 4,4-DDT and beta BHC.

Many of the inorganic compounds detected at the CWMNJ Newark facility were also detected at the other two properties at similar or higher concentrations.

4.6.2 Groundwater Quality

The concentrations of VOC's and semi-VOC's were substantially higher at both the Diamond Shamrock and Hilton Davis properties. Moreover, the highest detections of these organic compounds at the CWMNJ Newark facility were found in the upgradient well MW-1.

There were no analyses for pesticides in groundwater at Hilton Davis. The concentrations of the BHC pesticides and the 4,4-DDD series were generally higher at Diamond Shamrock.

Higher concentrations of inorganic compounds were detected at Diamond Shamrock.

5.0 SUMMARY AND CONCLUSIONS

The RI at the CWMNJ Newark facility was conducted in accordance with the provisions of the RI Work Plan that was approved by NJDEPE. Consistent with the Work Plan, the investigation focused on defining the nature and extent of soil and groundwater contamination at the facility. The following activities were performed during the RI:

- Soil sampling at 25 locations;
- The installation of three groundwater monitoring wells;
- Two rounds of groundwater sampling;
- Hydraulic conductivity testing; and,
- Groundwater level and tidal measurements.

The soil and groundwater samples were analyzed for the TCL/TAL parameters. The soil samples were also analyzed for TOC and pH; and two samples were analyzed for dioxin.

5.1 SUMMARY OF FINDINGS

5.1.1 Background and Setting

The CWMNJ Newark facility is located in an old industrial area of Newark, New Jersey that is commonly referred to as the Iron Bound Section. The Passaic River is located approximately 650 feet north of the site.

Hilton Davis and a portion of the Diamond Shamrock dioxin site are located north of the CWMNJ facility, Benjamin Moore is located to the east, Lister Avenue to the south and the Duralac Chemical Company to the west.

The CWMNJ and surrounding properties were developed in the late 1800's when marsh land along the Passaic River was filled with a heterogeneous mixture of ash from coal gasification plants, slag, construction debris, sand, silt and gravel. The CWMNJ site and surrounding properties were originally owned by Lister's Agricultural Chemical Works. Subsequently, all of the properties have been owned and used by a variety of companies engaged in the manufacturing of chemicals for agricultural and industrial uses. In 1977, SCA Chemical Services Company (SCA) began the initial operations at the 100 Lister Avenue property for the treatment of hazardous waste. CWM continued this site use when it acquired SCA in the mid-1980's.

The CWMNJ Newark facility is covered entirely by impervious surfaces which are underlain by two to seven feet of heterogeneous fill material. A silt layer, commonly called meadow mat, underlies the fill material. The silt layer is approximately six feet thick across the site except in the southwest corner where it is absent. Glaciofluvial sands underlie the meadow mat and extend approximately 90 feet to the shales and sandstones of the Passaic Formation.

The surficial groundwater zone is found only a few feet below the ground surface in the fill material. The underlying meadow mat serves as an aquitard between the surficial groundwater zone and the lower zone in the glaciofluvial sands, except in the southwest property corner where there is direct communication between the two zones.

Groundwater is flowing from the east-southeast towards the CWMNJ Newark facility. However, a groundwater mound on the Diamond Shamrock property to the north coupled with the lowered phreatic surface in the southwest facility corner where the meadow mat is absent is directing the groundwater flow from north to south across the western half of the CWMNJ property. Based on historical information there is a downward vertical gradient between the fill water zone and the glaciofluvial sands.

5.1.2 Nature and Extent of Contamination

In general, the environmental quality at the CWMNJ Newark facility reflects the long history of industrial manufacturing in the Newark Iron Bound Section and the quality of the fill material that was used to fill the area in the late 1800's.

A comparison of the RI soil and groundwater data with background data at the Hilton Davis and Diamond Shamrock properties indicates that most of the compounds detected at the CWMNJ Newark facility were detected at similar or higher concentrations at the other two properties.

Both organic and inorganic compounds were detected in the soil and groundwater at the CWMNJ Newark facility. The principal soil contaminants were semi-VOC's, pesticides and trace metals. The principal groundwater contaminants were VOC's, pesticides and trace metals.

The proposed NJDEPE soil cleanup criteria for several individual semi-VOC's, pesticides and trace metals were exceeded at a number of soil sample locations. However, the soil criteria for total organic compounds was exceeded at only two soil sample locations. These locations (100-S1 and ABUST-S1) are in the same general facility area. The total organic compound concentration at both sample locations was related almost entirely to pesticides.

The RI did not identify any organic or inorganic compounds in the site soils that could be directly attributed to any potential facility areas of concern that were identified in the RI Work Plan. The nature of the compounds that were detected and their random locations suggests that the material is related to pockets within the fill material that was placed across the site. The absence of clearly defined patterns of contamination at the facility areas of concern supports the previous statements. At several sampling locations the primary compounds detected were semi-VOC's. These compounds are suspected to have been present in the fill material when it was placed throughout the area as a result of the origins of the material. Moreover, the sporadic occurrences of the various compounds is demonstrated by the substantial differences in concentrations and nature of the compounds at adjacent sample locations.

The NJDEPE groundwater quality standards for several individual VOC's, semi-VOC's, pesticides and trace metals were exceeded in all of the monitoring wells to various extents. The most significant concentrations were detected in monitoring well MW-1 which is hydraulically upgradient from the facility. Monitoring well MW-2, which intercepts groundwater flowing from a substantial portion of the facility, had only a few detections of organic and inorganic compounds.

The groundwater quality is clearly due to unknown off-site contamination sources and natural degradation to some extent, as demonstrated by the water quality in the upgradient monitoring well.

5.2 CONCLUSIONS

The RI confirmed the geological, hydrogeological and environmental conditions at the CWMNJ Newark facility. The organic and inorganic compounds detected in the surfical fill material at the property are largely related to the origin of the fill material; and the extensive historical use of the property for the manufacturing of agricultural and industrial chemical products. The RI did not identify any site areas where environmental degradation could be attributed directly to CWMNJ facility operations.

A site wide remediation at the CWMNJ Newark facility is not warranted. The RI identified only two sample locations where the total organic compound concentrations were above the cleanup criteria. The organic and inorganic compounds detected in the soil and groundwater at the site are also present throughout the surrounding area consistent with the long history of industrial land use. The concentrations and nature of the soil contaminants, the absence of groundwater use for potable purposes and the limited industrial use in the surrounding area, and the limited ecological value of the area combine to limit the significance of the contamination. Moreover, a substantial portion of the CWMNJ property is covered with structures and the remaining area with impervious surfaces; the unsaturated soil column is only a few feet thick; and groundwater

throughout the area is degraded from natural constituents, salt water intrusion and industrial pollution.

It is recognized that the proposed soil cleanup criteria are risk based criteria intended to provide a degree of uniformity to site cleanup decisions. However, the criteria do not recognize actual site conditions and the extent to which potential exposure pathways exist. To clearly determine the realistic versus generic risk requires an accurate assessment of site specific conditions.

The CWMNJ Newark facility has been completely covered with impervious surfaces for a number of years. Therefore, the risk from direct contact is minimized. These impervious surfaces also serve to prevent precipitation infiltration and any subsequent leaching of the unsaturated soil zone.

Groundwater use in the Iron Bound section has been historically related to industrial manufacturing. Potable water is provided by municipal systems that obtain the water from areas beyond the Iron Bound Section. Historically, the wells in the Newark area have been completed within the bedrock of the Brunswick Formation in order to obtain sufficient yield and water quality. Therefore, the groundwater quality in the shallow water zones in the study area does not pose a human health or environmental risk.

5.3 RECOMMENDATIONS

It is recommended that the CWMNJ Newark property should be deed restricted to limit any future land use to activities compatible with current conditions in the study area. The integrity of the impervious surfaces that cover the entire facility should be maintained. Any penetrations of the ground surface should be promptly repaired to maintain the integrity of the impervious cover; and excavated materials should be handled and disposed of in accordance with the materials waste characterization consistent with the facility's current practices.

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TABLE 1
SUMMARY OF HISTORICAL SAMPLING DATA

* Result is on a dry weight basis.
** Analysis on a wet weight basis
*** See last page for list of qualifiers.

		East Side Loading and Unloading Area and Three Underground Storage Tanks					
		1A	2&3A	2&3B	4&5A	4B	5B
		7/12/85	7/12/85	7/12/85	7/12/85	7/12/85	7/12/85
Parameter	Units	Concentration *	Concentration	Concentration	Concentration	Concentration	Concentration
Arsenic	ppm	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Barioum	ppm	.11	.03	.13	.03	.06	.01
Cadmium	ppm	<0.01	0.01	<0.01	<0.01	<0.01	<0.01
Chromium	ppm	0.02	<0.01	0.01	<0.01	0.03	0.01
Lead	ppm	0.03	0.03	0.03	0.02	0.05	0.03
Mercury	ppm	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	ppm	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	ppm	<0.01	<8.0	<8.0	44	<8.0	<8.0
Corrosivity	ppm	7.9	8.9	7.6	8.6	7.5	7.3
Cyanide	ppm	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenols	ppm	<8.0	8.9	7.6	8.6	7.5	7.3
Petroleum Hydrocarbons	ppm	119	510	338	278	25.7	22
Gamma BHC – Lindane	ppm	<0.04	0.072	<0.04	<0.04	<0.04	<0.04
Endrin	ppm	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Methoxychlor	ppm	<1	<1	<1	<1	<1	<1
Toxaphene	ppm	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aroclor 1221	ppm	<2	<5	<5	<5	<5	<5
Aroclor 1016	ppm	<2	<5	<5	<5	<5	<5
Aroclor 1232	ppm	<2	<5	<5	<5	<5	<5
Aroclor 1242	ppm	<2	<5	<5	<5	<5	<5
Aroclor 1248	ppm	<2	<5	<5	<5	<5	<5
Aroclor 1254	ppm	<2	<5	<5	<5	<5	<5
Aroclor 1260	ppm	<2	<5	<5	<5	<5	<5

TABLE 1 (cont.)
SUMMARY OF HISTORICAL SAMPLING DATA

* Result is on a dry weight basis.

** Analysis on a wet weight basis

		Rail Containment Excavation		Sump Repair	Trench Excavation – Project 6A/6B		Center Storm Drain
		Area 1&2	Area 3&4	Sump – 1	S–1	S–2	Composite Sample
		8/22/90	8/22/90	9/7/91	10/16/91	10/23/91	12/10/91
Parameter	Units	Concentration *	Concentration *	TCLP Concentration	Concentration *	Concentration *	Concentration **
1,1–Dichloroethene	ppb	<7,500	<770	<250	<86,000	<7,500	
1,1–Dichloroethane	ppb	<7,500	<770		<86,000	<7,500	
trans–1,2–Dichloroethene	ppb	<7,500	<770		<86,000	<7,500	
Chloroform	ppb	<7,500	<770	<250	<86,000	<7,500	
1,2–Dichloroethane	ppb	<7,500	<770	<250	<86,000	<7,500	
1,1,1–Trichloroethane	ppb	<7,500	<770		<86,000	<7,500	
Carbon Tetrachloride	ppb	<7,500	<770	<250	<86,000	<7,500	
Bromodichloromethane	ppb	<7,500	<770		<86,000	<7,500	
1,1,2,2–Tetrachloroethane	ppb	<7,500	<770		<86,000	<7,500	
1,2–Dichloropropane	ppb	<7,500	<770		<86,000	<7,500	
trans–1,3–Dichloropropene	ppb	<7,500	<770		<86,000	<7,500	
Trichloroethene	ppb	<7,500	<770	<250	<86,000	<7,500	
Dibromochloromethane	ppb	<7,500	<770		<86,000	<7,500	
1,1,2–Trichloroethane	ppb	<7,500	<770		<86,000	<7,500	
Benzene	ppb	<7,500	<770	<250	<86,000	<7,500	
cis–1,3–Dichloropropene	ppb	<7,500	<770		<86,000	<7,500	
2–Chloroethylvinyl ether	ppb	<15,000	<1,800		<180,000	<16,000	
Bromoform	ppb	<7,500	<770		<86,000	<7,500	
Tetrachloroethene	ppb	<7,500	<770	<250	<86,000	<7,500	
Toluene	ppb	<7,500	4,500		7,500,000	860,000	
Chlorobenzene	ppb	<7,500	16,000	2,300	<86,000	29,000	
Ethylbenzene	ppb	150,000	21,000		<86,000	<7,500	
Xylenes	ppb				<86,000	<7,500	
2–Butanone (MEK)	ppb			<500			
2–Chlorophenol	ppb	<390	<400		<4,500	<2,000	<500
Phenol	ppb	25,900	11,200		105,000	26,500	
2–Nitrophenol	ppb	<390	<400		<4,500	<2,000	<333
2–methylphenol	ppb			590			<333
4–methylphenol	ppb						<333
3/4–methylphenol	ppb			320			
2,4–Dimethyl phenol	ppb	137,000	53,700		<4,500	<2,000	<167
2,4–Dichlorophenol	ppb	<390	<400		<4,500	<2,000	<333
4–chloro–3–methyl phenol	ppb	<390	<400		<4,500	<2,000	<833
2,4,6–trichlorophenol	ppb	<390	<400	<50	<4,500	<2,000	<667
2,4–dinitrophenol	ppb	<990	<1,000		<11,000	<5,000	<1000
4–nitrophenol	ppb	<990	<1,000		<11,000	<5,000	<667
2–methyl–4,6–dinitrophenol	ppb	<990	<1,000		<11,000	<5,000	<1667
Pentachlorophenol	ppb	<990	<1,000	<250	<23,000	<9,900	<1000
3–nitroaniline	ppb						<333
4–nitroaniline	ppb						<1667
Aniline	ppb						<333
N–nitrosodimethylamine	ppb	<390	<400		<4,500	<2,000	<333

TABLE 1 (cont.)
SUMMARY OF HISTORICAL SAMPLING DATA

* Result is on a dry weight basis.
** Analysis on a wet weight basis

		Rail Containment Excavation		Sump Repair	Trench Excavation – Project 6A/6B		Center Storm Drain
		Area 1&2	Area 3&4	Sump – 1	S–1	S–2	Composite Sample
		8/22/90	8/22/90	9/7/91	10/16/91	10/23/91	12/10/91
Parameter	Units	Concentration *	Concentration *	TCLP Concentration	Concentration *	Concentration *	Concentration **
bis (2–chloroethyl) ether	ppb	<390	<400		<4,500	<2,000	<333
1,3–dichlorobenzene	ppb	1,600	2,180		<4,500	<2,000	<333
1,4–dichlorobenzene	ppb	4,680	9,420	1,300	<4,500	<2,000	1128
1,2–dichlorobenzene	ppb	<390	<400		<4,500	<2,000	<333
bis (2–chloroisopropyl) ether	ppb	<390	<400		<4,500	<2,000	<333
Hexachloroethane	ppb	<390	<400	<50	<4,500	<2,000	<333
N–nitrosodi–n–propylamine	ppb	<390	<400		<4,500	<2,000	<333
Nitrobenzene	ppb	<390	<400	<50	<4,500	<2,000	<333
Isophorone	ppb	<390	<400		<4,500	<2,000	<333
bis (2–chloroethoxy) methane	ppb	<390	<400		<4,500	<2,000	<333
1,2,4–trichlorobenzene	ppb	1,560	2,320		<4,500	<2,000	<333
Napthalene	ppb	970	2,750		<4,500	3,200	<333
Hexachlorobutadiene	ppb	<390	<400	<50	<4,500	<2,000	<333
Hexachlorocyclopentadiene	ppb	<390	<400		<4,500	<2,000	<333
2–chloronaphthalene	ppb	<390	<400		<4,500	<2,000	<333
Acenaphthylene	ppb	<390	<400		<4,500	<2,000	<333
Dimethyl phthalate	ppb	<390	<400		<4,500	<2,000	<333
2,6–dinitrotoluene	ppb	<390	<400		<4,500	<2,000	<333
Acenaphthene	ppb	400	1,930		<4,500	2,300	<333
2,4–dinitrotoluene	ppb	<390	<400	<50	<4,500	<2,000	<333
Fluorene	ppb	420	2,170		<4,500	2,700	<333
4–chlorophenyl phenyl ether	ppb	<390	<400		<4,500	<2,000	<333
Diethyl phthalate	ppb	<390	<400		<4,500	<2,000	<333
1,2–diphenylhydrazine	ppb	<390	<400		<4,500	<2,000	<333
N–nitrosodiphenylamine	ppb	<390	<400		<4,500	<2,000	<333
4–bromophenyl phenyl ether	ppb	<390	<400		<4,500	<2,000	<333
Benzyl alcohol	ppb						<333
Benzoic acid	ppb						<1667
Hexachlorobenzene	ppb	<390	<400	<50	<4,500	<2,000	<333
Phenanthrene	ppb	1,970	9,100		11,200	16,300	<333
Anthracene	ppb	430	2,020		<4,500	4,200	<333
Di–n–butyl phthalate	ppb	15,900	2,490		<4,500	<2,000	<333
Flouroanthene	ppb	2,140	5,200		10,000	12,400	356
Pyrene	ppb	3,030	4,560		12,600	20,700	341
Benzidine	ppb	<990	<1,000		<45,000	<20,000	<333
Butyl benzyl phthalate	ppb	<390	<400		<4,500	<2,000	<333
Benzo (a) anthracene	ppb	<390	3,140		4,900	9,700	<333
Chrysene	ppb	<390	3,020		6,800	8,600	<333
3,3'–dichlorobenzidine	ppb	<990	<1,000		<9,200	<4,000	<333
bis (2–ethylhexyl) phthalate	ppb	176,000	36,800		5,700	<2,000	<333
di–n–octyl phthalate	ppb	<390	<400		<4,500	<2,000	<333
Benzo (b) flouranthene	ppb	1,920	2,720		7,600	14,300	<333

TABLE 1 (cont.)
SUMMARY OF HISTORICAL SAMPLING DATA

* Result is on a dry weight basis.
** Analysis on a wet weight basis

		Rail Containment Excavation		Sump Repair	Trench Excavation – Project 6A/6B		Center Storm Drain
		Area 1&2	Area 3&4	Sump – 1	S–1	S–2	Composite Sample
		8/22/90	8/22/90	9/7/91	10/16/91	10/23/91	12/10/91
Parameter	Units	Concentration *	Concentration *	TCLP Concentration	Concentration *	Concentration *	Concentration **
Benzo (K) flouranthene	ppb	<390	<400		<4,500	<2,000	<333
Benzo (a) pyrene	ppb	1,280	1,990		<4,500	9,300	<333
Indeno (1,2,3–cd) pyrene	ppb	870	1,200		<4,500	9,800	<333
Dibenz (a,h) anthracene	ppb	<390	<400		<4,500	<2,000	<833
2–nitroaniline	ppb						<333
Benzo (ghi) perylene	ppb	770	1,010		<4,500	8,900	<333
4–chloroaniline	ppb						1603
2–methylnapthlene	ppb						<333
Dibenzofuran	ppb						<333
Pesticides							
Alpha BHC	ppm	2	<6		150	2.83	<6.0
Beta BHC	ppm	1	<6		37	1.76	<6.0
Gamma BHC – Lindane	ppm	<1	<6		2.33	0.07	<6.0
Delta BHC	ppm	<1	<6		2.19	0.05	<6.0
Heptachlor	ppm	<1	<6		<3	<0.01	<0.1
Aldrin	ppm	<1	<6		<3	0.05	<6.0
Heptachlor Epoxide	ppm	<1	<6		<3	0.03	<0.1
4,4' – DDE	ppm	<0.1	<1		3.84	0.40	<6.0
4,4' – DDD	ppm	10	2		53	2.78	<6.0
4,4' – DDT	ppm	<0.1	<0.01		12	1.84	<6.0
Dieldrin	ppm	<0.1	<0.06		0.07	0.03	<6.0
Endrin	ppm	<0.1	<0.06		0.06	<0.02	<6.0
Methoxychlor	ppm				<10	0.06	<6.0
Chlordane	ppm	<6	<40		<10	<0.06	<500
Toxaphene	ppm	<1	<10		<30	<2	<1000
Endosulfan I	ppm	<0.1	<0.06		<0.03	<0.01	<6.0
Endosulfan II	ppm	<0.1	<0.06		<0.5	<0.06	<6.0
Endosulfan Sulfate	ppm	<0.6	<0.04		<0.04	<0.04	<6.0
Endrin Aldehyde	ppm	<1	<0.06		<0.1	<0.1	
PCB's							
Aroclor 1221	ppm			<1.6			<500
Aroclor 1016	ppm			<1.6			<500
Aroclor 1232	ppm			<1.6			<500
Aroclor 1242	ppm			<1.6			<500
Aroclor 1248	ppm			<1.6			<500
Aroclor 1254	ppm			<3.2			<500
Aroclor 1260	ppm			<3.2			<500
PCB–1016	ppm	<20	<100		<50	<0.2	
PCB–1221	ppm	<20	<100		<50	<0.2	

TABLE 1 (cont.)
SUMMARY OF HISTORICAL SAMPLING DATA

* Result is on a dry weight basis.
** Analysis on a wet weight basis

		Rail Containment Excavation		Sump Repair	Trench Excavation – Project 6A/6B		Center Storm Drain
		Area 1&2	Area 3&4	Sump – 1	S–1	S–2	Composite Sample
		8/22/90	8/22/90	9/7/91	10/16/91	10/23/91	12/10/91
Parameter	Units	Concentration *	Concentration *	TCLP Concentration	Concentration *	Concentration *	Concentration **
PCB–1232	ppm	<20	<100		<50	<0.2	
PCB–1242	ppm	<20	<100		<50	<0.2	
PCB–1248	ppm	<20	<180		<50	<0.2	
PCB–1254	ppm	<2	<20		<50	<0.2	
PCB–1260	ppm	<2	<20		<50	<0.2	
TIC's							
Benzene, dimethyl – isomer	ppb	510,000	30,000				
Phenol, 3–methyl–	ppb	29,000	940		36,000	12,000	
Phenol, 3–methyl–	ppb	31,000					
Phenol, 2–ethyl	ppb	5,600	1,400				
Phenol, 3–ethyl–	ppb	13,000					
Phenol, 2,3–dimethyl	ppb	4,800	1,700				
m–Chloroaniline	ppb	1,400					
Benzenamine, 2,6–dichloro	ppb	7,900					
Benzenamine, 2,4–dichloro	ppb	48,000					
Benzenamine, N–propyl–	ppb	5,600	1,700				
alpha.–Lindane	ppb	1,700					
Propanamide, N–(3,4–dichloro)	ppb	60,000					
Phosphoric acid, tris(2–methyl)	ppb	2,800	4,500				
Phosphoric acid ester	ppb	1,400	1,500				
Phosphoric acid, tris(methyl)	ppb	1,700	1,800				
Phenol, 2–methyl–	ppb		2,200				
Benzene, 1–methoxy–4–methyl	ppb		5,700				
Phenol, 2,3,6–trimethyl	ppb		860				
Phenol, 2,3,6–trimethyl	ppb		650				
1H–Indene, 1–ethylidene–	ppb		530				
Dibenzofuran	ppb		1,700			2,200	
Hexanedioic acid, dioctyl ester	ppb		1,100				
Phosphoric acid, tris(4–methyl)	ppb		32,000				
2–pentanone, 4–hydroxy–4–met	ppb				13,000	6,500	
Benzaldehyde, 2–hydroxy–	ppb				1,200,000		
Benzaldehyde, 2–chloro–	ppb				28,000		
Phenol, 4–chloro–	ppb				5,500		
Benzaldehyde, 5–chloro–2–hydroxy	ppb				100,000	15,000	
Phosphoric acid, tris(3–methyl)	ppb				5,500		
Phosphoric acid, tris(3–methyl)	ppb				2,300		
Boric acid (H3BO3), trimethyl	ppb				1,500,000	220,000	
3–penten–2–one, 4–methyl–	ppb					2,800	
Benzaldehyde, 4–hydroxy	ppb					320,000	
Benzaldehyde, 3–chloro	ppb					2,600	

TABLE 1 (cont.)
SUMMARY OF HISTORICAL SAMPLING DATA

* Result is on a dry weight basis.
** Analysis on a wet weight basis

		Rail Containment Excavation		Sump Repair	Trench Excavation – Project 6A/6B		Center Storm Drain
		Area 1&2	Area 3&4	Sump – 1	S–1	S–2	Composite Sample
		8/22/90	8/22/90	9/7/91	10/16/91	10/23/91	12/10/91
Parameter	Units	Concentration *	Concentration *	TCLP Concentration	Concentration *	Concentration *	Concentration **
Napthalene, 1–methyl	ppb					1,600	
9H–flourene, 9–ethylidene	ppb					990	
Phenanthrene, 4–methyl–	ppb					1,400	

TABLE 1 (cont.)
SUMMARY OF HISTORICAL SAMPLING DATA
Underground Storage Tank
July 9, 1991

Parameter	Limit of Quantification	S-1 7/9/91	Limit of Quantification	S-8 7/9/91
N-nitrosodimethylamine	4,000	<4,000	2,100	<2,100
bis (2-chloroethyl) ether	4,000	<4,000	2,100	<2,100
1,3-dichlorobenzene	4,000	5,000	2,100	4,200
1,4-dichlorobenzene	4,000	9,200	2,100	20,400
1,2-dichlorobenzene	4,000	<4,000	2,100	7,100
bis (2-chloroisopropyl) ether	4,000	<4,000	2,100	<2,100
hexachlorethane	4,000	<4,000	2,100	<2,100
N-nitrosodi-n-propylamine	4,000	<4,000	2,100	<2,100
nitrobenzene	4,000	<4,000	2,100	<2,100
isophorone	4,000	<4,000	2,100	<2,100
bis (2-chloroethoxy) methane	4,000	<4,000	2,100	<2,100
1,2,4-trichlorobenzene	4,000	<4,000	2,100	2,100
naphthalene	4,000	7,700	2,100	2,100
hexachlorbutadiene	4,000	<4,000	2,100	<2,100
hexachlorocyclopentadiene	4,000	<4,000	2,100	<2,100
2-chloronaphthalene	4,000	<4,000	2,100	<2,100
acenaphthylene	4,000	<4,000	2,100	<2,100
dimethyl phthalate	4,000	<4,000	2,100	<2,100
2,6-dinitrotoluene	4,000	<4,000	2,100	<2,100
acenaphthene	4,000	13,400	2,100	<2,100
2,4-dinitrotoluene	4,000	<4,000	2,100	<2,100
fluorene	4,000	14,200	2,100	2,300
4-chlorophenyl phenyl ether	4,000	<4,000	2,100	<2,100
diethyl phthalate	4,000	<4,000	2,100	<2,100
1,2-diphenylhydrazine	4,000	<4,000	2,100	<2,100

TABLE 1 (CON'T)
SUMMARY OF HISTORICAL SAMPLING DATA
Underground Storage Tank
July 9, 1991

Parameter	Limit of Quantification	S-1 7/9/91	Limit of Quantification	S-8 7/9/91
N-nitrosodiphenylamine	4,000	<4,000	2,100	<2,100
4-bromophenyl phenyl ether	4,000	<4,000	2,100	<2,100
hexachlorobenzene	4,000	5,100	2,100	8,900
phenanthrene	4,000	45,600	2,100	9,600
anthracene	4,000	21,400	2,100	2,700
di-n-butyl phthalate	4,000	<4,000	2,100	<2,100
fluoranthene	4,000	41,600	2,100	9,500
pyrene	4,000	40,600	2,100	9,100
benzidine	10,000	<10,000	5,100	<5,100
butyl benzyl phthalate	4,000	<4,000	2,100	<2,100
benzo (a) anthracene	4,000	27,100	2,100	5,500
chrysene	4,000	25,200	2,100	3,900
3,3'-dichlorobenzidine	8,100	<8,100	4,000	<4,000
bis (2-ethylhexyl) phthalate	4,000	16,600	2,100	19,000
di-n-octyl phthalate	4,000	<4,000	2,100	<2,100
benzo (b) fluoranthene	4,000	20,900	2,100	4,500
benzo (k) fluoranthene	4,000	24,100	2,100	4,800
benzo (a) pyrene	4,000	25,200	2,100	4,900
indeno (1,2,3-cd) pyrene	4,000	10,800	2,100	<2,100
dibenz (a,h) anthracene	4,000	<4,000	2,100	<2,100
benzo (ghi) perylene	4,000	8,600	2,100	<2,100
TOTAL BASE NEUTRALS		362,300		120,600

NOTES: All concentrations in ug/kg - All results on a dry-wt. basis

TABLE 1 (cont.)
SUMMARY OF HISTORICAL SAMPLING DATA
Underground Storage Tank
Soil Sample S-1
July 9, 1991

Number of TICs found: 15

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123422	2-Pentanone, 4-hydroxy-4-met	8.04	11000	JAB
2.____	Unknown alkane	19.82	8000	J
3.____	1,1'-Biphenyl	20.29	8400	JI
4.____	Unknown	20.69	60000	J
5.____	Naphthalene, 2,6-dimethyl-	20.81	9200	JI
6.____	Naphthalene, 1,3-dimethyl-	21.09	9200	JI
7.____	Unknown alkane	21.31	8000	J
8. 132649	Dibenzofuran	22.85	18000	J
9.____	Naphthalene, 1,4,6-trimethyl	23.29	7600	JI
10.____	Naphthalene, 1,4,5-trimethyl	23.58	12000	JI
11.____	Unknown alkane	24.36	20000	J
12.____	1,1-Dichloro-2,2-bis(p-chlor	32.52	9600	JI
13.____	Unknown	32.89	11000	J
14.____	Unknown	33.29	13000	J
15.____	Benzo[e]pyrene	42.19	10000	JI
	TOTAL NON-TARGET COMPOUNDS		215,000	

NOTES: All concentrations in ug/kg - All results on a dry wt. basis

Qualifiers: A - aldol condesate B - detected in method blank
D - determined in diluted sample J - estimated value
I - an isomer of the listed compound

TABLE 1 (cont.)
SUMMARY OF HISTORICAL SAMPLING DATA
Underground Storage Tank
Soil Sample S-8
July 9, 1991

Number of TICs found: 15

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123422	2-Pentanone, 4-hydroxy-4-met	8.07	5400	JAB
2.____	Unknown	10.78	3400	JB
3.____	Unknown	23.57	3600	J
4.____	Cyclohexane, 1,2,3,4,5,6-hex	26.56	6600	JI
5.____	Cyclohexane, 1,2,3,4,5,6-hex	27.74	3400	JI
6.____	DDMU	31.31	6600	JI
7.____	o,p'-DDE	31.46	2600	JI
8.____	p,p'-DDE	32.25	3400	JI
9. 80079	Benzene, 1,1'-sulfonylbis[4-	33.05	12000	J
10.____	Unknown	33.32	7600	J
11.50293	p,p'DDT	34.27	2600	J
12.____	Unknown	39.15	2400	J
13.____	Unknown	39.72	8000	J
14.____	Unknown	39.97	4400	J
15.____	Benzo[a]pyrene	42.18	3400	JI
	TOTAL NON-TARGET COMPOUNDS		75,400	

NOTES: All concentrations in ug/kg - All results on a dry wt. basis

Qualifiers: A - aldol condesate B - detected in method blank
D - determined in diluted sample J - estimated value
I - an isomer of the listed compound

TABLE 1 (cont.)
SUMMARY OF HISTORICAL SAMPLING DATA
Underground Storage Tank
July 9, 1991

Parameter / Sample # / Lab # / Date Collected	Limit of Quantification	S-1 7/9/91	S-2 7/9/91	S-3 7/9/91	S-4 7/9/91	S-5 7/9/91	S-6 7/9/91	S-7 7/9/91	S-8 7/9/91
Petroleum Hydrocarbons mg/kg	20	6,000	100	360	230	180	6,200	310	740
Moisture * % by wt.	0.1	17.0	18.3	29.3	24.8	26.9	11	22.9	17.1

NOTES: * = "Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius.

All analyses are presented on a dry weight basis.

Table - 2
Sample Analytical Summary Table
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

Enseco Project #	Filename	Sample #	Depth	Date	Sample Run	Volatiles	Semi-Volatiles	Pesticides	Metals
E028861	A4A.WK	700-S1	0.5-2.5	26-May-93		X	X	X	X
		700-S1	0.5-2.5	26-May-93	Dilution			X	
		700-S1	2.5-4.5	26-May-93			X	X	X
		700-S1	2.5-4.5	26-May-93	Dilution			X	
		700-S2	0.5-2.5	26-May-93		X	X	X	X
		700-S2	0.5-2.5	26-May-93	Dilution	X		X	
		700-S3	0.5-2.5	26-May-93		X	X	X	X
		700-S3	0.5-2.5	26-May-93	Dilution			X	
		500-S2	0.5-2.5	26-May-93		X	X	X	X
		500-S2	0.5-2.5	26-May-93	Dilution			X	
		FB-1		26-May-93		X			
		TRIP BLANK		26-May-93		X			
E028865	A3A.WK	100-S1	0.5-2.5	27-May-93		X	X	X	X
		100-S1	0.5-2.5	27-May-93	Dilution			X	
		100-S2	0.5-2.5	27-May-93		X	X	X	X
		100-S2	0.5-2.5	27-May-93	Dilution			X	
		100-S3	0.67-2.67	27-May-93		X	X	X	X
		100-S3	0.67-2.67	27-May-93	Dilution			X	
		100-S4	2.5-4.5	27-May-93		X	X	X	X
		100-S4	2.5-4.5	27-May-93	Dilution			X	
		ABUST-S1	0.5-2.5	27-May-93		X	X	X	X
		ABUST-S1	0.5-2.5	27-May-93	Dilution	X		X	
		FP-S1	1.0-3.0	27-May-93		X	X	X	X
		FP-S1	1.0-3.0	27-May-93	Dilution			X	
		LISTER-S1	6.5-8.5	27-May-93			X	X	X
		LISTER-S1	0.5-2.5	27-May-93			X	X	X
		LISTER-S1	0.5-2.5	27-May-93	Dilution			X	
		LISTER-S1	0.5-2.5	27-May-93	Replicate		X		
		LISTER-S2	2.5-4.5	27-May-93		X	X	X	X
		LISTER-S2	2.5-4.5	27-May-93	Dilution			X	
		500-S-1		27-May-93		X	X	X	X
		500-S-1		27-May-93	Dilution		X	X	
		FB-2		27-May-93		X			
E028877	A2A.WK	TRUCK-S1	0.5-2.5	28-May-93		X	X	X	X
		TRUCK-S1	0.5-2.5	28-May-93	Dilution			X	
		TRUCK-S1	0.5-2.5	28-May-93	Replicate		X		
		TRUCK-S2	0.5-2.5	28-May-93		X	X	X	X
		TRUCK-S2	0.5-2.5	28-May-93	Dilution			X	
		TRUCK-S3	1.0-3.0	28-May-93		X	X	X	X
		TRUCK-S3	1.0-3.0	28-May-93	Dilution	X		X	
		TRUCK-S4	2.5-4.5	28-May-93		X	X	X	X
		TRUCK-S4	2.5-4.5	28-May-93	Dilution			X	
		TRUCK-S4	0.5-2.5	28-May-93			X	X	X
		TRUCK-S4	0.5-2.5	28-May-93	Dilution		X	X	
		TRUCK-S5	0.5-2.5	28-May-93		X	X	X	X
		TRUCK-S5	0.5-2.5	28-May-93	Dilution			X	
		TRUCK-S5	2.5-4.5	28-May-93			X	X	X
		TRUCK-S5	2.5-4.5	28-May-93	Dilution		X	X	
		TRUCK-S6	1.0-3.0	28-May-93		X	X	X	X
		TRUCK-S6	1.0-3.0	28-May-93	Dilution			X	
		TRUCK-S7	1.0-3.0	28-May-93		X	X	X	X
		TRUCK-S7	1.0-3.0	28-May-93	Dilution			X	
		TRUCK-S7	1.0-3.0	28-May-93	Duplicate				X
		TRIP BLANK		28-May-93		X			
E028891	A5A.WK	MW-1		10-Jun-93		X	X	X	X
E029877		MW-1		10-Jun-93	Dilution			X	
		MW-1		10-Jun-93	Replicate			X	
		MW-1		10-Jun-93	Replicate Dilution			X	
		MW-1		18-Aug-93		X	X	X	X
		MW-1		18-Aug-93	Dilution	X		X	
		MW-2		10-Jun-93		X	X	X	X
		MW-2		10-Jun-93	Dilution			X	
		MW-2		10-Jun-93	Replicate			X	
		MW-2		10-Jun-93	Replicate Dilution			X	
		MW-2		18-Aug-93		X	X	X	X
		MW-2		18-Aug-93	Dilution			X	
		MW-2D		18-Aug-93		X	X		X
		MW-2D		18-Aug-93	Dilution		X	X	
		MW-3		10-Jun-93		X	X	X	X
		MW-3		10-Jun-93	Replicate			X	
		MW-3		10-Jun-93	Replicate Dilution			X	
		MW-3		18-Aug-93		X	X	X	X
		MW-3		18-Aug-93	Dilution			X	
		HDMW-6		07-Jul-93		X		X	X
		HDMW-9		07-Jul-93		X	X	X	X
		HDMW-6		07-Jul-93	Dilution	X	X		
		HDMW-9		07-Jul-93	Dilution	X	X		
		HDMW-10		07-Jul-93		X	X	X	X
		HDMW-6		18-Aug-93		X	X	X	X
		HDMW-6		18-Aug-93	Dilution	X	X		
		FIELD BLANK		07-Jul-93		X			
		FIELD BLANK		10-Jun-93		X	X	X	X
		FIELD BLANK		10-Jun-93	Replicate			X	
		FIELD BLANK		18-Aug-93		X	X	X	X
		TRIP BLANK		07-Jul-93		X			
		TRIP BLANK		10-Jun-93		X			
		TRIP BLANK		18-Aug-93		X			
E028899	A1A.WK	GH-S1	0.5-2.5	01-Jun-93		X	X	X	X
		GH-S1	0.5-2.5	01-Jun-93	Replicate			X	
		GH-S1	0.5-2.5	01-Jun-93	Replicate Dilution			X	
		GH-S2	0.5-2.5	01-Jun-93		X	X	X	X
		GH-S2	0.5-2.5	01-Jun-93	Replicate			X	
		GH-S2	0.5-2.5	01-Jun-93	Replicate Dilution			X	
		LAB-S1	2.0-2.5	01-Jun-93		X	X	X	X
		LAB-S1	2.0-2.5	01-Jun-93	Dilution			X	
		LAB-S1	2.0-2.5	01-Jun-93	Replicate		X	X	
		LAB-S1	2.0-2.5	01-Jun-93	Replicate Dilution			X	
		LAB-S2	2.0-2.5	01-Jun-93		X	X	X	X
		LAB-S2	2.0-2.5	01-Jun-93	Dilution			X	
		LAB-S2	2.0-2.5	01-Jun-93	Replicate		X	X	
		LAB-S2	2.0-2.5	01-Jun-93	Replicate Dilution			X	
		FP-S2	1.0-3.0	01-Jun-93		X	X	X	X
		FP-S2	1.0-3.0	01-Jun-93	Dilution		X	X	
		FP-S2	1.0-3.0	01-Jun-93	Replicate			X	
		FP-S2	1.0-3.0	01-Jun-93	Replicate Dilution			X	
		FIELD BLANK #3		01-Jun-93		X			
		TRIP BLANK		01-Jun-93		X			

TABLE 3
SOIL SAMPLE LOCATION SUMMARY
REMEDIAL INVESTIGATION
CWM OF NEW JERSEY, INC.

AREA OF CONCERN	SOIL SAMPLE LOCATION
100 Series Tank Farm	100-S1, 100-S2, 100-S3, 100-S4
500 Series Tank Farm	500-S1 (Aqueous), 500-S2, Lister-S1, Lister-S2, Truck-S1, Truck-S2
700 Series Tank Farm	700-S1, 700-S2, 700-S3
Truck Unloading Areas (A, B, C, D and F)	100-S1[1], 100-S2[2], Truck-S3, Truck-S4, Truck-S5, Truck-S6, Truck-S7[2]
Former Buried Railroad Tank Cars	GH-1, GH-2
Abandoned UST	ABUST
Reactor/Sump Area	Lab-S1, Lab-S2[2]
Filter Press Building	FP-S1, FP-S2
Dioxin Area	DSDB-S1, DSDB-S2

Notes:

1. Sample applicable to 100 Series Tank Farm and Truck Unloading Area A.

2. Blind duplicate to preceeding sample.

TABLE 4

SURVEYED SAMPLING POINTS

REMEDIAL INVESTIGATION
CWM OF NEW JERSEY,INC.
NEWARK, NEW JERSEY

SAMPLING POINT IDENTIFICATION	LATITUDE	LONGITUDE
MONITORING WELLS:		
MW-1	40 o, 44', 19.384690"	74 o, 8', 3.462284"
MW-2	40 o, 44', 19.263776"	74 o, 8', 7.222405"
MW-3	40 o, 44', 22.487712"	74 o, 8', 7.186334"
HDMW-6	40 o, 44', 22.675569"	74 o, 8', 4.674851"
SOIL BORINGS:		
100-S-1	40 o, 44', 20.182676"	74 o, 8', 3.438765"
100-S-2	40 o, 44', 20.638138"	74 o, 8', 3.278880"
100-S-3	40 o, 44', 21.237674"	74 o, 8', 3.140220"
100-S-4	40 o, 44', 21.230989"	74 o, 8', 2.798865"
500-S-1	40 o, 44', 19.896783"	74 o, 8', 5.769016"
500-S-2	40 o, 44', 19.650298"	74 o, 8', 5.711541"
500-S-3	40 o, 44', 19.512063"	74 o, 8', 6.095697"
700-S-1	40 o, 44', 19.871832"	74 o, 8', 6.485034"
700-S-2	40 o, 44', 19.998755"	74 o, 8', 6.244545"
700-S-3	40 o, 44', 20.155141"	74 o, 8', 6.254349"
DIOXIN-2	40 o, 44', 22.492953"	74 o, 8', 7.731934"
FP-S-1	40 o, 44', 21.373471"	74 o, 8', 3.361771"
FP-S-2	40 o, 44', 22.104997"	74 o, 8', 4.204691"
GH-S-1	40 o, 44', 19.763276"	74 o, 8', 4.852003"
GH-S-2	40 o, 44', 19.677884"	74 o, 8', 4.692586"
LAB-S-1	40 o, 44', 20.199918"	74 o, 8', 3.963601"
LISTER-S-1	40 o, 44', 19.272095"	74 o, 8', 6.607740"
LISTER-S-2	40 o, 44', 19.311868"	74 o, 8', 5.678812"
TRUCK-S-1	40 o, 44', 19.545681"	74 o, 8', 5.323708"
TRUCK-S-2	40 o, 44', 20.117202"	74 o, 8', 5.332463"
TRUCK-S-3	40 o, 44', 21.085635"	74 o, 8', 5.019480"
TRUCK-S-4	40 o, 44', 21.539628"	74 o, 8', 5.103620"
TRUCK-S-5	40 o, 44', 21.869518"	74 o, 8', 5.094375"
TRUCK-S-6	40 o, 44', 21.225650"	74 o, 8', 5.617239"
STANDPIPE	40 o, 44', 26.909331"	74 o, 8', 4.180216"

TABLE 5

SUMMARY OF WATER SUPPLY WELLS WITHIN A ONE MILE RADIUS OF THE CWM OF NEW JERSEY, INC., NEWARK, NEW JERSEY FACILITY

REMEDIAL INVESTIGATION CWM OF NEW JERSEY, INC. NEWARK, NEW JERSEY

OWNER	DISTANCE (MILES)	LATITUDE	LONGITUDE	WELL DEPTH (FEET)	REPORTED CAPACITY (GPM)
HONEYCOMB PLASTICS CORP.	0.9	40 o, 45', 06"	74 o, 08',38"	500	210
HONEYCOMB PLASTICS CORP.	0.9	40 o, 45', 06"	74 o, 08',38"	700	500
KARLSHAMNS USA, INC.	0.6	40 o, 44', 46"	74 o, 08',38"	584	500
KARLSHAMNS USA, INC.	0.8	40 o, 44', 58"	74 o, 08',35"	615	1000
RANSON METALS CORP.	0.4	40 o, 43', 58"	74 o, 08',08"	300	150
RANSON METALS CORP.	0.7	40 o, 43', 42"	74 o, 08',35"	165	100

TABLE 6

GROUNDWATER ELEVATIONS

REMEDIAL INVESTIGATION
CWM OF NEW JERSEY, INC.
NEWARK, NEW JERSEY

WELL IDENTIFICATION	MEASUREMENT DATE	INNER PVC CASING ELEVATION (MSL)	DEPTH TO WATER (FEET)	GROUNDWATER ELEVATION (MSL)
MW - 1	6/10/93	6.25	2.08	4.17
	8/5/93		2.65	3.60
	8/18/93		0.78	5.47
	8/24/93		1.88	4.37
	9/22/93		1.06	5.19
MW - 2	6/10/93	8.73	7.32	1.41
	8/5/93		7.64	1.09
	8/18/93		7.04	1.69
	8/24/93		7.29	1.44
	9/22/93		7.20	1.53
MW - 3	6/10/93	9.00	4.79	4.21
	8/5/93		4.60	4.40
	8/18/93		3.12	5.88
	8/24/93		3.74	5.26
	9/22/93		3.61	5.39
HD MW - 6	8/18/93	6.36	1.34	5.02
	8/24/93		1.42	4.94

NOTE:
MSL - MEAN SEA LEVEL

TABLE 7
HYDRAULIC CONDUCTIVITY
REMEDIAL INVESTIGATION
CWM OF NEW JERSEY, INC.

BOUWER AND RICE METHOD

Monitoring Well Identification	MW-1	MW-2	MW-3
Test Type			
Falling Head			
Run One	1.088 X 10^{-4} cm/sec	4.085 x 10^{-3} cm/sec	2.321 x 10^{-3} cm/sec
Run Two		4.174 x 10^{-3} cm/sec	2.748 x 10^{-3} cm/sec
Recovery Head			
Run One	5.573 x 10^{-4} cm/sec	4.243 x 10^{-3} cm/sec	3.925 x 10^{-3} cm/sec
Run Two		4.863 x 10^{-3} cm/sec	3.109 x 10^{-3} cm/sec

HVORSLEV METHOD

Monitoring Well Identification	MW-1	MW-2	MW-3
Test Type			
Falling Head			
Run One	4.41 x 10^{-4} cm/sec	7.7 x 10^{-3} cm/sec	1.1 x 10^{-2} cm/sec
Run Two		7.5 x 10^{-3} cm/sec	7.1 x 10^{-3} cm/sec
Recovery Head			
Run One	1.5 x 10^{-3} cm/sec	3.6 x 10^{-2} cm/sec	1.2 x 10^{-2} cm/sec
Run Two		3.7 x 10^{-2} cm/sec	8.6 x 10^{-3} cm/sec

Table - 8
Soil Sampling Analytical Results
Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	GH-S1-0.5'-2.5'	GH-S2-0.5'-2.5'	LAB-S1-2.0'-2.5'	LAB-S2-2.0'-2.5'
SAMPLE RUN:	NON-RESIDENTIAL				
SAMPLE DATE:	CLEANUP	01 JUN 93	01 JUN 93	01 JUN 93	01 JUN 93
DILUTION FACTOR:	STANDARDS	1	1	1	1
UNITS:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
VOLATILE COMPOUNDS:					
Chloromethane	1000000				
Bromomethane	1000000				
Vinyl Chloride	7000				
Chloroethane					
Methylene chloride	210000	2.0 B,J		210 J	
Acetone	1000000				540 B,J
Carbon disulfide					
1,1-Dichloroethene	150000				
1,1-Dichloroethane	1000000				
1,2-Dichloroethene ^(cis/trans)	1000000				
Chloroform	28000				
1,2-Dichloroethane	24000				
2-Butanone	1000000			820 B,J	
1,1,1-Trichloroethane	1000000				
Carbon tetrachloride	4000				
Bromodichloromethane	22000				
1,2-Dichloropropane	43000				
cis-1,3-Dichloropropene	5000				
Trichloroethene	54000				
Dibromochloromethane	1000000				
1,1,2-Trichloroethane	420000				
Benzene	13000				
trans-1,3-Dichloropropene	5000				
Bromoform	370000				
4-Methyl-2-Pentanone	1000000				
2-Hexanone					
1,1,2,2-Tetrachloroethane	70000				
Tetrachloroethene	6000				
Toluene	1000000			7900	9200
Chlorobenzene	680000			2300	2300
Ethylbenzene	1000000				
Styrene	97000				
Xylenes (total)	1000000			280 J	

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 8 (con't)
Soil Sampling Analytical Results
Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	FP-S2-1'-3'		FIELD BLANK#3	TRIP BLANK
SAMPLE RUN:	NON-RESIDENTIAL				
SAMPLE DATE:	CLEANUP	01 JUN 93		01 JUN 93	01 JUN 93
DILUTION FACTOR:	STANDARDS	1		1	1
UNITS:	ug/kg	ug/kg		ug/L	ug/L
VOLATILE COMPOUNDS:					
Chloromethane	1000000				
Bromomethane	1000000				
Vinyl Chloride	7000				
Chloroethane					
Methylene chloride	210000				
Acetone	1000000				
Carbon disulfide					
1,1-Dichloroethene	150000				
1,1-Dichloroethane	1000000				
1,2-Dichloroethene ^(cis/trans)	1000000				
Chloroform	28000				
1,2-Dichloroethane	24000				
2-Butanone	1000000	1100	B,J		
1,1,1-Trichloroethane	1000000				
Carbon tetrachloride	4000				
Bromodichloromethane	22000				
1,2-Dichloropropane	43000				
cis-1,3-Dichloropropene	5000				
Trichloroethene	54000				
Dibromochloromethane	1000000				
1,1,2-Trichloroethane	420000				
Benzene	13000	740	J		
trans-1,3-Dichloropropene	5000				
Bromoform	370000				
4-Methyl-2-Pentanone	1000000				
2-Hexanone					
1,1,2,2-Tetrachloroethane	70000				
Tetrachloroethene	6000				
Toluene	1000000	170	J		
Chlorobenzene	680000	29000			
Ethylbenzene	1000000	1000	J		
Styrene	97000				
Xylenes (total)	1000000	4700			

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 8 (con't)
Soil Sampling Analytical Results
Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	TRUCK-S1-0.5'-2.5'		TRUCK-S2-0.5'-2.5'		TRUCK-S3-1.0'-3.0'	
SAMPLE RUN:	NON-RESIDENTIAL					INITIAL	
SAMPLE DATE:	CLEANUP	28 MAY 93		28 MAY 93		28 MAY 93	
DILUTION FACTOR:	STANDARDS	1		1		1	
UNITS:	ug/kg	ug/kg		ug/kg		ug/kg	
VOLATILE COMPOUNDS:							
Chloromethane	1000000						
Bromomethane	1000000						
Vinyl Chloride	7000						
Chloroethane							
Methylene chloride	210000	3.0	B,J	4.0	B,J		
Acetone	1000000	5.0	B,J	6.0	B,J	490	J
Carbon disulfide							
1,1-Dichloroethene	150000						
1,1-Dichloroethane	1000000						
1,2-Dichloroethene (total)	1000000	2.0	J	110		280	J
Chloroform	28000					970	J
1,2-Dichloroethane	24000						
2-Butanone	1000000						
1,1,1-Trichloroethane	1000000						
Carbon tetrachloride	4000						
Bromodichloromethane	22000						
1,2-Dichloropropane	43000						
cis-1,3-Dichloropropene	5000						
Trichloroethene	54000	2.0	J	1.0	J	2000	
Dibromochloromethane	1000000						
1,1,2-Trichloroethane	420000						
Benzene	13000			11	J		
trans-1,3-Dichloropropene	5000						
Bromoform	370000						
4-Methyl-2-Pentanone	1000000						
2-Hexanone							
1,1,2,2-Tetrachloroethane	70000						
Tetrachloroethene	6000					23000	
Toluene	1000000			6.0	J	72000	E
Chlorobenzene	680000	15		190		57000	E
Ethylbenzene	1000000			7.0	J	32000	E
Styrene	97000						
Xylenes (total)	1000000	2.0	J	15		160000	E

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 8 (con't)
Soil Sampling Analytical Results
Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	TRUCK-S3-1.0'-3.0' DILUTION	TRUCK-S4-2.5'-4.5'	TRUCK-S5-0.5'-2.5'
SAMPLE RUN:	NON-RESIDENTIAL			
SAMPLE DATE:	CLEANUP	28 MAY 93	28 MAY 93	28 MAY 93
DILUTION FACTOR:	STANDARDS	1	1	1
UNITS:	ug/kg	ug/kg	ug/kg	ug/kg
VOLATILE COMPOUNDS:				
Chloromethane	1000000			
Bromomethane	1000000			
Vinyl Chloride	7000			
Chloroethane				
Methylene chloride	210000	2200 B,J,D	550 B,J	
Acetone	1000000			
Carbon disulfide				
1,1-Dichloroethene	150000			
1,1-Dichloroethane	1000000			
1,2-Dichloroethene (total)	1000000			
Chloroform	28000			
1,2-Dichloroethane	24000			3300
2-Butanone	1000000		810 J	
1,1,1-Trichloroethane	1000000			
Carbon tetrachloride	4000			
Bromodichloromethane	22000			
1,2-Dichloropropane	43000			
cis-1,3-Dichloropropene	5000			
Trichloroethene	54000	2100 D,J		420 J
Dibromochloromethane	1000000			
1,1,2-Trichloroethane	420000			
Benzene	13000		300 J	510 J
trans-1,3-Dichloropropene	5000			
Bromoform	370000			
4-Methyl-2-Pentanone	1000000			
2-Hexanone				
1,1,2,2-Tetrachloroethane	70000			
Tetrachloroethene	6000	24000 D		
Toluene	1000000	89000 D		930 J
Chlorobenzene	680000	65000 D	14000	19000
Ethylbenzene	1000000	34000 D	350 J	5900
Styrene	97000			
Xylenes (total)	1000000	200000 D	2000	33000

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 8 (con't)
Soil Sampling Analytical Results
Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	TRUCK-S6-1.0'-3.0'		TRUCK-S7-1.0'-3.0'		TRIP BLANK
SAMPLE RUN:	NON-RESIDENTIAL					
SAMPLE DATE:	CLEANUP	28 MAY 93		28 MAY 93		28 MAY 93
DILUTION FACTOR:	STANDARDS	1		1		1
UNITS:	ug/kg	ug/kg		ug/kg		ug/L
VOLATILE COMPOUNDS:						
Chloromethane	1000000					
Bromomethane	1000000					
Vinyl Chloride	7000					
Chloroethane						
Methylene chloride	210000	17	J	5.0	B,J	
Acetone	1000000	900	B	220	B	
Carbon disulfide		21	J	7.0	J	
1,1-Dichloroethene	150000					
1,1-Dichloroethane	1000000	58	J	11	J	
1,2-Dichloroethene (total)	1000000					
Chloroform	28000					
1,2-Dichloroethane	24000					
2-Butanone	1000000	210		44		
1,1,1-Trichloroethane	1000000					
Carbon tetrachloride	4000					
Bromodichloromethane	22000					
1,2-Dichloropropane	43000					
cis-1,3-Dichloropropene	5000					
Trichloroethene	54000	48	J	5.0	J	
Dibromochloromethane	1000000					
1,1,2-Trichloroethane	420000					
Benzene	13000	940		220		
trans-1,3-Dichloropropene	5000					
Bromoform	370000					
4-Methyl-2-Pentanone	1000000					
2-Hexanone						
1,1,2,2-Tetrachloroethane	70000					
Tetrachloroethene	6000					
Toluene	1000000	260		100		
Chlorobenzene	680000	950		130		
Ethylbenzene	1000000	290		74		
Styrene	97000					
Xylenes (total)	1000000	770		350		

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 8 (con't)
Soil Sampling Analytical Results
Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	100-S1-0.5'-2.5'	100-S2-0.5'-2.5'	100-S3-0.67'-2.67'	100-S4-2.5'-4.5'
SAMPLE RUN:	NON-RESIDENTIAL				
SAMPLE DATE:	CLEANUP	27 MAY 93	27 MAY 93	27 MAY 93	27 MAY 93
DILUTION FACTOR:	STANDARDS	1	1	1	1
UNITS:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
VOLATILE COMPOUNDS:					
Chloromethane	1000000				
Bromomethane	1000000				
Vinyl Chloride	7000				
Chloroethane					
Methylene chloride	210000	9.0 J	2.0 J		2.0 J
Acetone	1000000		180		
Carbon disulfide			5.0 J		
1,1-Dichloroethene	150000				
1,1-Dichloroethane	1000000				
1,2-Dichloroethene ^(total)	1000000				
Chloroform	28000				2.0 J
1,2-Dichloroethane	24000			230 J	49
2-Butanone	1000000		24	1400 J	
1,1,1-Trichloroethane	1000000				
Carbon tetrachloride	4000				
Bromodichloromethane	22000				
1,2-Dichloropropane	43000				
cis-1,3-Dichloropropene	5000				
Trichloroethene	54000				
Dibromochloromethane	1000000				
1,1,2-Trichloroethane	420000				
Benzene	13000	360	5.0 J		8.0 J
trans-1,3-Dichloropropene	5000				
Bromoform	370000				
4-Methyl-2-Pentanone	1000000				
2-Hexanone					
1,1,2,2-Tetrachloroethane	70000				
Tetrachloroethene	6000				2.0 J
Toluene	1000000	21 J		730 J	7.0 J
Chlorobenzene	680000	790	56	1900	3.0 J
Ethylbenzene	1000000		2.0 J	790 J	
Styrene	97000				
Xylenes (total)	1000000		8.0 J	3500	

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 8 (con't)
Soil Sampling Analytical Results
Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	ABUST-S1-0.5'-2.5'		ABUST-S1-0.5'-2.5' DILUTION		FP-S1-1.0'-3.0'		LISTER-S2-2.5'-4.5'	
SAMPLE RUN:	NON-RESIDENTIAL								
SAMPLE DATE:	CLEANUP	27 MAY 93		27 MAY 93		27 MAY 93		27 MAY 93	
DILUTION FACTOR:	STANDARDS	1		1		1		1	
UNITS:	ug/kg	ug/kg		ug/kg		ug/kg		ug/kg	
VOLATILE COMPOUNDS:									
Chloromethane	1000000								
Bromomethane	1000000								
Vinyl Chloride	7000	300							
Chloroethane									
Methylene chloride	210000	30	J			4.0	J	2.0	J
Acetone	1000000	390				27		64	
Carbon disulfide									
1,1-Dichloroethene	150000								
1,1-Dichloroethane	1000000	10	J			2.0	J		
1,2-Dichloroethene *(cis/trans)	1000000	160							
Chloroform	28000	33	J			12	J		
1,2-Dichloroethane	24000	360		670	D,J	94			
2-Butanone	1000000								
1,1,1-Trichloroethane	1000000								
Carbon tetrachloride	4000								
Bromodichloromethane	22000								
1,2-Dichloropropane	43000								
cis-1,3-Dichloropropene	5000								
Trichloroethene	54000	80		300	D,J	6.0	J		
Dibromochloromethane	1000000								
1,1,2-Trichloroethane	420000								
Benzene	13000	300		490	D,J	21			
trans-1,3-Dichloropropene	5000								
Bromoform	370000								
4-Methyl-2-Pentanone	1000000								
2-Hexanone									
1,1,2,2-Tetrachloroethane	70000					2.0	J		
Tetrachloroethene	6000	72		390	D,J	41			
Toluene	1000000	1800	E	4600	D	15	J	3.0	J
Chlorobenzene	680000	490		1800	D	76		3.0	J
Ethylbenzene	1000000	53	J	280	D,J	3.0	J		
Styrene	97000								
Xylenes (total)	1000000	470		2300	D	12	J	6.0	J

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate
(1)-Aqueous Sample

Table - 8 (con't)
Aqueous Sampling Analytical Results
Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NEW JERSEY	500-S-1 (1)	
SAMPLE RUN:	CLASS II-A		
SAMPLE DATE:	GROUNDWATER	27 MAY 93	
DILUTION FACTOR:	CRITERIA	5	
UNITS:	ug/L	ug/L	
VOLATILE COMPOUNDS:			
Chloromethane	30		
Bromomethane	10		
Vinyl Chloride	5		
Chloroethane			
Methylene chloride	2	14	J
Acetone	700	500	
Carbon disulfide			
1,1-Dichloroethene	2		
1,1-Dichloroethane	70	6.0	J
1,2-Dichloroethene ^(cis/trans)	10	110	
Chloroform	6		
1,2-Dichloroethane	2		
2-Butanone	300		
1,1,1-Trichloroethane	30		
Carbon tetrachloride	2		
Bromodichloromethane	1		
1,2-Dichloropropane	1		
cis-1,3-Dichloropropene	0.2		
Trichloroethene	1	50	
Dibromochloromethane	10		
1,1,2-Trichloroethane	3		
Benzene	1	140	
trans-1,3-Dichloropropene	0.2		
Bromoform	4		
4-Methyl-2-Pentanone	400	560	
2-Hexanone			
1,1,2,2-Tetrachloroethane	2		
Tetrachloroethene	1	32	J
Toluene	1000	740	
Chlorobenzene	4	220	
Ethylbenzene	700	140	
Styrene	100		
Xylenes (total)	40	860	

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate
(1)-Aqueous Sample

Table - 8 (con't)
Soil Sampling Analytical Results
Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	FB-2
SAMPLE RUN:	NON-RESIDENTIAL	
SAMPLE DATE:	CLEANUP	27 MAY 93
DILUTION FACTOR:	STANDARDS	1
UNITS:	ug/kg	ug/L
VOLATILE COMPOUNDS:		
Chloromethane	1000000	
Bromomethane	1000000	
Vinyl Chloride	7000	
Chloroethane		
Methylene chloride	210000	
Acetone	1000000	
Carbon disulfide		
1,1-Dichloroethene	150000	
1,1-Dichloroethane	1000000	
1,2-Dichloroethene (cis/trans)	1000000	
Chloroform	28000	
1,2-Dichloroethane	24000	
2-Butanone	1000000	
1,1,1-Trichloroethane	1000000	
Carbon tetrachloride	4000	
Bromodichloromethane	22000	
1,2-Dichloropropane	43000	
cis-1,3-Dichloropropene	5000	
Trichloroethene	54000	
Dibromochloromethane	1000000	
1,1,2-Trichloroethane	420000	
Benzene	13000	
trans-1,3-Dichloropropene	5000	
Bromoform	370000	
4-Methyl-2-Pentanone	1000000	
2-Hexanone		
1,1,2,2-Tetrachloroethane	70000	
Tetrachloroethene	6000	
Toluene	1000000	
Chlorobenzene	680000	
Ethylbenzene	1000000	
Styrene	97000	
Xylenes (total)	1000000	

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 8 (con't)
Soil Sampling Analytical Results
Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	700-S1-0.5'-2.5'	700-S2-0.5'-2.5'	700-S2-0.5'-2.5'	700-S3-0.5'-2.5'
SAMPLE RUN:	NON-RESIDENTIAL			DILUTION	
SAMPLE DATE:	CLEANUP	26 MAY 93	26 MAY 93	26 MAY 93	26 MAY 93
DILUTION FACTOR:	STANDARDS	1	1	1	1
UNITS:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
VOLATILE COMPOUNDS:					
Chloromethane	1000000				
Bromomethane	1000000				
Vinyl Chloride	7000				
Chloroethane					
Methylene chloride	210000				2.0 J
Acetone	1000000				160
Carbon disulfide					
1,1-Dichloroethene	150000				
1,1-Dichloroethane	1000000				
1,2-Dichloroethene ^(cis/trans)	1000000				
Chloroform	28000				
1,2-Dichloroethane	24000				
2-Butanone	1000000		1200 J		32
1,1,1-Trichloroethane	1000000				
Carbon tetrachloride	4000				
Bromodichloromethane	22000				
1,2-Dichloropropane	43000				
cis-1,3-Dichloropropene	5000				
Trichloroethene	54000				
Dibromochloromethane	1000000				
1,1,2-Trichloroethane	420000				
Benzene	13000				
trans-1,3-Dichloropropene	5000				
Bromoform	370000				
4-Methyl-2-Pentanone	1000000				
2-Hexanone					
1,1,2,2-Tetrachloroethane	70000				
Tetrachloroethene	6000				
Toluene	1000000		2300		
Chlorobenzene	680000				
Ethylbenzene	1000000	300 J	2400		2.0 J
Styrene	97000				
Xylenes (total)	1000000	9600	160000 E		14

NOTE:
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E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 8 (con't)
Soil Sampling Analytical Results
Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	500-S2-0.5'-2.5'		FB-1	TRIP BLANK
SAMPLE RUN:	NON-RESIDENTIAL				
SAMPLE DATE:	CLEANUP	26 MAY 93		26 MAY 93	26 MAY 93
DILUTION FACTOR:	STANDARDS	1		1	1
UNITS:	ug/kg	ug/kg		ug/L	ug/L
VOLATILE COMPOUNDS:					
Chloromethane	1000000				
Bromomethane	1000000				
Vinyl Chloride	7000				
Chloroethane					
Methylene chloride	210000				
Acetone	1000000				
Carbon disulfide					
1,1-Dichloroethene	150000				
1,1-Dichloroethane	1000000				
1,2-Dichloroethene (cis/trans)	1000000				
Chloroform	28000				
1,2-Dichloroethane	24000				
2-Butanone	1000000				
1,1,1-Trichloroethane	1000000				
Carbon tetrachloride	4000				
Bromodichloromethane	22000				
1,2-Dichloropropane	43000				
cis-1,3-Dichloropropene	5000				
Trichloroethene	54000				
Dibromochloromethane	1000000				
1,1,2-Trichloroethane	420000				
Benzene	13000	7900			
rans-1,3-Dichloropropene	5000				
Bromoform	370000				
4-Methyl-2-Pentanone	1000000				
2-Hexanone					
1,1,2,2-Tetrachloroethane	70000				
Tetrachloroethene	6000				
Toluene	1000000	8500			
Chlorobenzene	680000	1100	J		
Ethylbenzene	1000000	7400			
Styrene	97000				
Xylenes (total)	1000000	38000			

NOTE:
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B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 8
Soil Sampling Analytical Results
Semi-Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	GH-S1-0.5'-2.5'	GH-S2-0.5'-2.5'	LAB-S1-2.0'-2.5'	LAB-S1-2.0'-2.5'
SAMPLE RUN:	NON-RESIDENTIAL				REPLICATE
SAMPLE DATE:	CLEANUP	01 JUN 93	01 JUN 93	01 JUN 93	01 JUN 93
DILUTION FACTOR:	STANDARDS	1	1	5	5
UNITS:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
SEMI-VOLATILE COMPOUNDS:					
Acenaphthene	10000000				
Acenaphthylene					
Anthracene	10000000				
9H-Carbazole					
Benzo(a)anthracene	4000			290 J	350 J
Benzo(a)pyrene	660			360 J	360 J
Benzo(b)fluoranthene				670 J	790 J
Benzo(g,h,i)perylene					
Benzo(k)fluoranthene	4000			240 J	
4-Bromophenyl ˆphenyl ether					
Butyl benzyl phthalate	10000000				
4-Chloroaniline	4200000				
bis(2-Chloroethoxy)-ˆmethane					
bis(2-Chlorethyl)ether	3000				
2,2'-oxybis(1-Chloropropane)					
4-Chloro-3-methylphenol	10000000				
2-Chloronaphthalene					
2-Chlorophenol	5200000				
4-Chlorophenyl ˆphenyl ether					
Chrysene	40000			370 J	360 J
Di-n-butyl phthalate	10000000				
Dibenz(a,h)anthracene	660				
Dibenzofuran					
1,2-Dichlorobenzene	10000000			1500 J	1400 J
1,3-Dichlorobenzene	10000000			240 J	260 J
1,4-Dichlorobenzene	10000000			2300	2300
3,3'-Dichlorobenzidine	6000				
2,4-Dichlorophenol	3100000			1500 J	1700 J
Diethyl phthalate	10000000				
2,4-Dimethylphenol	10000000			1300 J	1400 J
Dimethyl phthalate	10000000				
4,6-Dinitro-ˆ2-methylphenol					
2,4-Dinitrophenol	2100000				
2,4-Dinitrotoluene					
2,6-Dinitrotoluene					
Di-n-octyl phthalate	10000000				
bis(2-Ethylhexyl) ˆphthalate	210000			510 J	500 J
Fluoranthene	10000000			450 J	440 J
Fluorene	10000000				
Hexachlorobenzene	2000				
Hexachlorobutadiene	210000				
Hexachlorocyclo-ˆpentadiene	7300000				
Hexachloroethane	100000				
Indeno(1,2,3-cd)pyrene	4000				
Isophorone	10000000				
2-Methylnaphthalene					
2-Methylphenol	10000000			6300	6000
4-Methylphenol	10000000			6600	6900
Naphthalene	4200000				
2-Nitroaniline					
3-Nitroaniline					
4-Nitroaniline					
Nitrobenzene	520000				
2-Nitrophenol					
4-Nitrophenol					
N-Nitrosodiphenylamine	600000				
N-Nitroso-di-ˆn-propylamine	660				
Pentachlorophenol	24000			600 J	630 J
Phenanthrene				370 J	360 J
Phenol	10000000			2500	2500
Pyrene	10000000			1000 J	1100 J
1,2,4-Trichlorobenzene	1200000			1100 J	1200 J
2,4,5-Trichlorophenol	10000000				
2,4,6-Trichlorophenol	270000			240 J	290 J

NOTE:
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J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 8 (con't)
Soil Sampling Analytical Results
Semi-Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	LAB-S2-2.0'-2.5'		LAB-S2-2.0'-2.5' REPLICATE		FP-S2-1'-3'		FP-S2-1'-3' DILUTION	
SAMPLE RUN:	NON-RESIDENTIAL								
SAMPLE DATE:	CLEANUP	01 JUN 93		01 JUN 93		01 JUN 93		01 JUN 93	
DILUTION FACTOR:	STANDARDS	5		5		5		60	
UNITS:	ug/kg	ug/kg		ug/kg		ug/kg		ug/kg	
SEMI-VOLATILE COMPOUNDS:									
Acenaphthene	10000000								
Acenaphthylene									
Anthracene	10000000	240	J	230	J	250	J		
9H-Carbazole									
Benzo(a)anthracene	4000	630	J	600	J	710	J		
Benzo(a)pyrene	660	720	J	750	J	910	J		
Benzo(b)fluoranthene		1400	J	1600	J	3100			
Benzo(g,h,i)perylene		270	J			1200	J		
Benzo(k)fluoranthene	4000	460	J	310	J				
4-Bromophenyl ˆphenyl ether									
Butyl benzyl phthalate	10000000								
4-Chloroaniline	4200000								
bis(2-Chloroethoxy)-ˆmethane									
bis(2-Chloroethyl)ether	3000								
2,2'-oxybis(1-Chloropropane)									
4-Chloro-3-methylphenol	10000000								
2-Chloronaphthalene									
2-Chlorophenol	5200000	290	J	290	J				
4-Chlorophenyl ˆphenyl ether									
Chrysene	40000	760	J	730	J	580	J		
Di-n-butyl phthalate	10000000	250	J	270	J	1100	J		
Dibenz(a,h)anthracene	660					450	J		
Dibenzofuran									
1,2-Dichlorobenzene	10000000	2000	J	2000	J	3600		4400	D,J
1,3-Dichlorobenzene	10000000	410	J	420	J	1000	J		
1,4-Dichlorobenzene	10000000	3000		2900		3300		3600	D,J
3,3'-Dichlorobenzidine	6000								
2,4-Dichlorophenol	3100000			2200	J				
Diethyl phthalate	10000000								
2,4-Dimethylphenol	10000000	2500		2500					
Dimethyl phthalate	10000000	340	J	280	J	410	J		
4,6-Dinitro-ˆ2-methylphenol									
2,4-Dinitrophenol	2100000								
2,4-Dinitrotoluene									
2,6-Dinitrotoluene									
Di-n-octyl phthalate	10000000					270	J		
bis(2-Ethylhexyl) ˆphthalate	210000	810	J	760	J	73000	E	100000	D
Fluoranthene	10000000	880	J	840	J	910	J		
Fluorene	10000000								
Hexachlorobenzene	2000					1200	J		
Hexachlorobutadiene	210000								
Hexachlorocyclo-ˆpentadiene	7300000								
Hexachloroethane	100000								
Indeno(1,2,3-cd)pyrene	4000	250	J	250	J	1100	J		
Isophorone	10000000								
2-Methylnaphthalene		320	J	320	J	940	J		
2-Methylphenol	10000000	9000		9100		890	J		
4-Methylphenol	10000000	9000		8700		250	J		
Naphthalene	4200000	360	J	360	J	350	J		
2-Nitroaniline									
3-Nitroaniline									
4-Nitroaniline									
Nitrobenzene	520000								
2-Nitrophenol									
4-Nitrophenol									
N-Nitrosodiphenylamine	600000								
N-Nitroso-di-ˆn-propylamine	660								
Pentachlorophenol	24000	740	J	710	J	5000	J		
Phenanthrene		690	J	710	J	570	J		
Phenol	10000000	4000		3900		550	J		
Pyrene	10000000	2200	J	2200	J	730	J		
1,2,4-Trichlorobenzene	1200000	1700	J	1700	J	34000	E	34000	D
2,4,5-Trichlorophenol	10000000								
2,4,6-Trichlorophenol	270000	560	J	610	J				

NOTE:
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J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
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C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 8 (con't)
Soil Sampling Analytical Results
Semi-Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	TRUCK-S1-0.5'-2.5'	TRUCK-S1-0.5'-2.5'	TRUCK-S2-0.5'-2.5'	TRUCK-S3-1.0'-3.0'
SAMPLE RUN:	NON-RESIDENTIAL		REPLICATE		
SAMPLE DATE:	CLEANUP	28 MAY 93	28 MAY 93	28 MAY 93	28 MAY 93
DILUTION FACTOR:	STANDARDS	10	10	10	80
UNITS:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
SEMI-VOLATILE COMPOUNDS					
Acenaphthene	10000000				5900 J
Acenaphthylene					
Anthracene	10000000				
9H-Carbazole					
Benzo(a)anthracene	4000				
Benzo(a)pyrene	660		500 J		
Benzo(b)fluoranthene				520 J	3600 J
Benzo(g,h,i)perylene		430 J	520 J		
Benzo(k)fluoranthene	4000				
4-Bromophenyl ˆphenyl ether					
Butyl benzyl phthalate	10000000				
4-Chloroaniline	4200000				
bis(2-Chloroethoxy)-ˆmethane					
bis(2-Chloroethyl)ether	3000				
2,2'-oxybis(1-Chloropropane)					
4-Chloro-3-methylphenol	10000000				
2-Chloronaphthalene					
2-Chlorophenol	5200000				
4-Chlorophenyl ˆphenyl ether					
Chrysene	40000	400 J	400 J		
Di-n-butyl phthalate	10000000				15000 J
Dibenz(a,h)anthracene	660				
Dibenzofuran					
1,2-Dichlorobenzene	10000000				160000
1,3-Dichlorobenzene	10000000				6100 J
1,4-Dichlorobenzene	10000000				
3,3'-Dichlorobenzidine	6000				
2,4-Dichlorophenol	3100000				
Diethyl phthalate	10000000				
2,4-Dimethylphenol	10000000				
Dimethyl phthalate	10000000				
4,6-Dinitro-ˆ2-methylphenol					
2,4-Dinitrophenol	2100000				
2,4-Dinitrotoluene					
2,6-Dinitrotoluene					
Di-n-octyl phthalate	10000000				
bis(2-Ethylhexyl) ˆphthalate	210000	680 J	760 J	5600	47000
Fluoranthene	10000000				6000 J
Fluorene	10000000				4800 J
Hexachlorobenzene	2000				18000 J
Hexachlorobutadiene	210000				
Hexachlorocyclo-ˆpentadiene	7300000				
Hexachloroethane	100000				
Indeno(1,2,3-cd)pyrene	4000				
Isophorone	10000000				
2-Methylnaphthalene					89000
2-Methylphenol	10000000				8800 J
4-Methylphenol	10000000				
Naphthalene	4200000				10000 J
2-Nitroaniline					
3-Nitroaniline					
4-Nitroaniline					
Nitrobenzene	520000				
2-Nitrophenol					
4-Nitrophenol					
N-Nitrosodiphenylamine	600000				7000 J
N-Nitroso-di-ˆn-propylamine	660				
Pentachlorophenol	24000				21000 J
Phenanthrene					7500 J
Phenol	10000000				
Pyrene	10000000				6500 J
1,2,4-Trichlorobenzene	1200000			900 J	72000
2,4,5-Trichlorophenol	10000000				
2,4,6-Trichlorophenol	270000				

NOTE:
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Table - 8 (con't)
Soil Sampling Analytical Results
Semi-Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	TRUCK-S4-0.5'-2.5'	TRUCK-S4-0.5'-2.5	TRUCK-S4-2.5'-4.5'	TRUCK-S5-0.5'-2.5'
SAMPLE RUN:	NON-RESIDENTIAL		DILUTION		
SAMPLE DATE:	CLEANUP	28 MAY 93	28 MAY 93	28 MAY 93	28 MAY 93
DILUTION FACTOR:	STANDARDS	10	30	10	50
UNITS:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
SEMI-VOLATILE COMPOUNDS					
Acenaphthene	10000000	560 J			
Acenaphthylene					
Anthracene	10000000	1400 J	1300 D,J	1200 J	
9H-Carbazole				590 J	
Benzo(a)anthracene	4000	1300 J	1300 D,J	2200 J	3600 J
Benzo(a)pyrene	660	1000 J		1300 J	3400 J
Benzo(b)fluoranthene		1500 J	1600 D,J	2300 J	4300 J
Benzo(g,h,i)perylene		680 J		1100 J	
Benzo(k)fluoranthene	4000	610 J			2300 J
4-Bromophenyl ^phenyl ether					
Butyl benzyl phthalate	10000000				
4-Chloroaniline	4200000	61000 E	58000 D	9300	
bis(2-Chloroethoxy)-^methane					
bis(2-Chloroethyl)ether	3000				
2,2'-oxybis(1-Chloroporpane)					
4-Chloro-3-methylphenol	10000000				
2-Chloronaphthalene					
2-Chlorophenol	5200000				
4-Chlorophenyl ^phenyl ether					
Chrysene	40000	1600 J	1600 D,J	1900 J	4800 J
Di-n-butyl phthalate	10000000	1900 J	2000 D,J	1600 J	3100 J
Dibenz(a,h)anthracene	660				
Dibenzofuran					
1,2-Dichlorobenzene	10000000	4300	4200 J	680 J	58000
1,3-Dichlorobenzene	10000000	10000	10000 D,J		28000
1,4-Dichlorobenzene	10000000	16000	16000 D	2300 J	160000
3,3'-Dichlorobenzidine	6000				
2,4-Dichlorophenol	3100000				
Diethyl phthalate	10000000				
2,4-Dimethylphenol	10000000	5100	4100 D,J	4700	
Dimethyl phthalate	10000000				
4,6-Dinitro-^2-methylphenol					
2,4-Dinitrophenol	2100000				
2,4-Dinitrotoluene					
2,6-Dinitrotoluene					
Di-n-octyl phthalate	10000000				
bis(2-Ethylhexyl) ^phthalate	210000	11000	13000 D	15000	27000
Fluoranthene	10000000	3900 J	3900 D,J	3200 J	8700 J
Fluorene	10000000	510 J		520 J	
Hexachlorobenzene	2000	540 J		520 J	6400 J
Hexachlorobutadiene	210000				
Hexachlorocyclo-^pentadiene	7300000				
Hexachloroethane	100000				
Indeno(1,2,3-cd)pyrene	4000	700 J		1100 J	2000 J
Isophorone	10000000				
2-Methylnaphthalene		8200	8700 D,J	620 J	2500 J
2-Methylphenol	10000000	11000	11000 D,J	10000	
4-Methylphenol	10000000	4900	4700 D,J	1900 J	
Naphthalene	4200000	3100 J	2900 D,J	690 J	
2-Nitroaniline					
3-Nitroaniline					
4-Nitroaniline					
Nitrobenzene	520000				
2-Nitrophenol					
4-Nitrophenol					
N-Nitrosodiphenylamine	600000				
N-Nitroso-di-^n-propylamine	660				
Pentachlorophenol	24000				
Phenanthrene		3200 J	3200 D,J	3700 J	6900 J
Phenol	10000000	1300 J	1300 D,J		
Pyrene	10000000	3600 J	3500 D,J	4800	7500 J
1,2,4-Trichlorobenzene	1200000	2200 J	2400 D,J	2600 J	7100000 E
2,4,5-Trichlorophenol	10000000				
2,4,6-Trichlorophenol	270000				

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
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Table - 8 (con't)
Soil Sampling Analytical Results
Semi-Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	TRUCK-S5-2.5'-4.5'	TRUCK-S5-2.5'-4.5'	TRUCK-S6-1.0'-3.0'	TRUCK-S7-1.0'-3.0'
SAMPLE RUN:	NON-RESIDENTIAL		DILUTION		
SAMPLE DATE:	CLEANUP	28 MAY 93	28 MAY 93	28 MAY 93	28 MAY 93
DILUTION FACTOR:	STANDARDS	20	400	20	10
UNITS:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
SEMI-VOLATILE COMPOUNDS:					
Acenaphthene	10000000	1500 J		4100 J	610 J
Acenaphthylene					
Anthracene	10000000	980 J		2700 J	700 J
9H-Carbazole				12000	2300 J
Benzo(a)anthracene	4000	1400 J		2700 J	1200 J
Benzo(a)pyrene	660	1300 J		1700 J	1000 J
Benzo(b)fluoranthene		2300 J		2600 J	1800 J
Benzo(g,h,i)perylene					390 J
Benzo(k)fluoranthene	4000				
4-Bromophenyl ^phenyl ether					
Butyl benzyl phthalate	10000000				
4-Chloroaniline	4200000	52000	57000 D,J		
bis(2-Chloroethoxy)-^methane					
bis(2-Chloroethyl)ether	3000				
2,2'-oxybis(1-Chloropropane)					
4-Chloro-3-methylphenol	10000000				
2-Chloronaphthalene					
2-Chlorophenol	5200000				
4-Chlorophenyl ^phenyl ether					
Chrysene	40000	1500 J		5200 J	1600 J
Di-n-butyl phthalate	10000000	3200 J			
Dibenz(a,h)anthracene	660				
Dibenzofuran				1200 J	
1,2-Dichlorobenzene	10000000	39000	35000 D,J		
1,3-Dichlorobenzene	10000000	38000	30000 D,J		
1,4-Dichlorobenzene	10000000	430000 E	730000 D		
3,3'-Dichlorobenzidine	6000				
2,4-Dichlorophenol	3100000				
Diethyl phthalate	10000000				
2,4-Dimethylphenol	10000000	1100 J		11000	660 J
Dimethyl phthalate	10000000				
4,6-Dinitro-^2-methylphenol					
2,4-Dinitrophenol	2100000				
2,4-Dinitrotoluene					
2,6-Dinitrotoluene					
Di-n-octyl phthalate	10000000				
bis(2-Ethylhexyl) ^phthalate	210000	16000	22000 D,J	2000 J	2700 J
Fluoranthene	10000000	3200 J		2800 J	2200 J
Fluorene	10000000	1100 J		12000	1900 J
Hexachlorobenzene	2000	1700 J		2300 J	1900 J
Hexachlorobutadiene	210000				
Hexachlorocyclo-^pentadiene	7300000				
Hexachloroethane	100000				
Indeno(1,2,3-cd)pyrene	4000				430 J
Isophorone	10000000				
2-Methylnaphthalene		13000		8100 J	1400 J
2-Methylphenol	10000000	13000		8000 J	690 J
4-Methylphenol	10000000	3200 J			
Naphthalene	4200000	10000		11000	1300 J
2-Nitroaniline					
3-Nitroaniline					
4-Nitroaniline					
Nitrobenzene	520000				
2-Nitrophenol					
4-Nitrophenol					
N-Nitrosodiphenylamine	600000				
N-Nitroso-di-^n-propylamine	660				
Pentachlorophenol	24000				
Phenanthrene		4000 J		11000	2800 J
Phenol	10000000	1100 J			
Pyrene	10000000	3200 J		6000 J	2300 J
1,2,4-Trichlorobenzene	1200000	7100000 E	110000 D,J		760 J
2,4,5-Trichlorophenol	10000000				
2,4,6-Trichlorophenol	270000				

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 8 (con't)
Soil Sampling Analytical Results
Semi-Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	100-S1-0.5'-2.5'	100-S2-0.5'-2.5'	100-S3-0.67'-2.67'	100-S3-0.67'-2.67'
SAMPLE RUN:	NON-RESIDENTIAL				
SAMPLE DATE:	CLEANUP	27 MAY 93	27 MAY 93	27 MAY 93	27 MAY 93
DILUTION FACTOR:	STANDARDS	1	1	5	5
UNITS:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
SEMI-VOLATILE COMPOUNDS:					
Acenaphthene	10000000		110 J		
Acenaphthylene			53 J		
Anthracene	10000000		320 J	8800 J	8300 J
9H-Carbazole			100 J		
Benzo(a)anthracene	4000	1200 J	980	19000 J	19000 J
Benzo(a)pyrene	660	2800 J	990	19000 J	19000 J
Benzo(b)fluoranthene		5700 J	1500	31000 J	29000 J
Benzo(g,h,i)perylene		1600 J	570	8200 J	9300 J
Benzo(k)fluoranthene	4000				
4-Bromophenyl ^phenyl ether					
Butyl benzyl phthalate	10000000				
4-Chloroaniline	4200000		93 J		
bis(2-Chloroethoxy)-^methane					
bis(2-Chloroethyl) ether	3000				
2,2'-oxybis(1-Chloropropane)					
4-Chloro-3-methylphenol	10000000				
2-Chloronaphthalene					
2-Chlorophenol	5200000				
4-Chlorophenyl ^phenyl ether					
Chrysene	40000	1500 J	770	16000 J	14000 J
Di-n-butyl phthalate	10000000		99 J		
Dibenz(a,h)anthracene	660		85 J		
Dibenzofuran			120 J	32000 J	34000 J
1,2-Dichlorobenzene	10000000		89 J	39000 J	39000 J
1,3-Dichlorobenzene	10000000		110 J		
1,4-Dichlorobenzene	10000000	1400 J	300 J	15000 J	16000 J
3,3'-Dichlorobenzidine	6000				
2,4-Dichlorophenol	3100000				
Diethyl phthalate	10000000				
2,4-Dimethylphenol	10000000	7700 J	530	72000	69000
Dimethyl phthalate	10000000		1400		
4,6-Dinitro-^2-methylphenol					
2,4-Dinitrophenol	2100000			270000	45000 J
2,4-Dinitrotoluene					
2,6-Dinitrotoluene					
Di-n-octyl phthalate	10000000				
bis(2-Ethylhexyl) ^phthalate	210000	3400 J	1400	9600 J	10000 J
Fluoranthene	10000000	2400 J	1500	34000 J	31000 J
Fluorene	10000000		200 J		
Hexachlorobenzene	2000	1800 J	71 J		
Hexachlorobutadiene	210000				
Hexachlorocyclo-^pentadiene	7300000				
Hexachloroethane	100000				
Indeno(1,2,3-cd)pyrene	4000	1400 J	640	8100 J	9300 J
Isophorone	10000000				
2-Methylnaphthalene			59 J	370000	370000
2-Methylphenol	10000000	1200 J	760	57000 J	50000 J
4-Methylphenol	10000000	10000 J	1100	18000 J	22000 J
Naphthalene	4200000		65 J	130000	130000
2-Nitroaniline					
3-Nitroaniline					
4-Nitroaniline					
Nitrobenzene	520000				
2-Nitrophenol					
4-Nitrophenol					
N-Nitrosodiphenylamine	600000		130 J		
N-Nitroso-di-^n-propylamine	660				
Pentachlorophenol	24000				
Phenanthrene		1400 J	1300	30000 J	30000 J
Phenol	10000000		470		18000 J
Pyrene	10000000	3400 J	1500	40000 J	36000 J
1,2,4-Trichlorobenzene	1200000	2800 J	220 J	69000	69000
2,4,5-Trichlorophenol	10000000				
2,4,6-Trichlorophenol	270000				

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 8 (con't)
Soil Sampling Analytical Results
Semi-Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	100-S4-2.5'-4.5'	ABUST-S1-0.5'-2.5'	FP-S1-1.0'-3.0'
SAMPLE RUN:	NON-RESIDENTIAL			
SAMPLE DATE:	CLEANUP	27 MAY 93	27 MAY 93	27 MAY 93
DILUTION FACTOR:	STANDARDS	1	50	10
UNITS:	ug/kg	ug/kg	ug/kg	ug/kg
SEMI-VOLATILE COMPOUNDS				
Acenaphthene	10000000			
Acenaphthylene				
Anthracene	10000000			
9H-Carbazole				
Benzo(a)anthracene	4000	140 J		
Benzo(a)pyrene	660	110 J		
Benzo(b)fluoranthene		230 J		920 J
Benzo(g,h,i)perylene		61 J		570 J
Benzo(k)fluoranthene	4000			
4-Bromophenyl ˆphenyl ether				
Butyl benzyl phthalate	10000000			
4-Chloroaniline	4200000			
bis(2-Chloroethoxy)-ˆmethane				
bis(2-Chloroethyl) ether	3000			
2,2'-oxybis(1-Chloropropane)				
4-Chloro-3-methylphenol	10000000			
2-Chloronaphthalene				
2-Chlorophenol	5200000			
4-Chlorophenyl ˆphenyl ether				
Chrysene	40000	180 J		
Di-n-butyl phthalate	10000000			
Dibenz(a,h)anthracene	660			
Dibenzofuran				
1,2-Dichlorobenzene	10000000	220 J		3200 J
1,3-Dichlorobenzene	10000000	99 J		700 J
1,4-Dichlorobenzene	10000000	170 J	3200 J	2900 J
3,3'-Dichlorobenzidine	6000			
2,4-Dichlorophenol	3100000		23000	
Diethyl phthalate	10000000			
2,4-Dimethylphenol	10000000			1100 J
Dimethyl phthalate	10000000			
4,6-Dinitro-ˆ2-methylphenol				
2,4-Dinitrophenol	2100000			
2,4-Dinitrotoluene				
2,6-Dinitrotoluene				
Di-n-octyl phthalate	10000000	57 J		
bis(2-Ethylhexyl) ˆphthalate	210000	460	3400 J	6300
Fluoranthene	10000000	240 J		740 J
Fluorene	10000000			
Hexachlorobenzene	2000	620		920 J
Hexachlorobutadiene	210000			
Hexachlorocyclo-ˆpentadiene	7300000			
Hexachloroethane	100000			
Indeno(1,2,3-cd)pyrene	4000	74 J		
Isophorone	10000000			
2-Methylnaphthalene				910 J
2-Methylphenol	10000000	240 J		2700 J
4-Methylphenol	10000000		7400 J	1200 J
Naphthalene	4200000			1000 J
2-Nitroaniline				
3-Nitroaniline				
4-Nitroaniline				
Nitrobenzene	520000			
2-Nitrophenol				
4-Nitrophenol				
N-Nitrosodiphenylamine	600000			
N-Nitroso-di-ˆn-propylamine	660			
Pentachlorophenol	24000			
Phenanthrene		160 J		
Phenol	10000000			700 J
Pyrene	10000000	270 J		590 J
1,2,4-Trichlorobenzene	1200000	1200		8600
2,4,5-Trichlorophenol	10000000	160 J		
2,4,6-Trichlorophenol	270000		4800 J	

NOTE:
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B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 8 (con't)
Soil Sampling Analytical Results
Semi-Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	LISTER-S1-0.5'-2.5'		LISTER-S1-0.5'-2.5' REPLICATE		LISTER-S1-6.5'-8.5'		LISTER-S2-2.5'-4.5'	
SAMPLE RUN:	NON-RESIDENTIAL								
SAMPLE DATE:	CLEANUP	27 MAY 93		27 MAY 93		27 MAY 93		27 MAY 93	
DILUTION FACTOR:	STANDARDS	1		1		1		1	
UNITS:	ug/kg	ug/kg		ug/kg		ug/kg		ug/kg	
SEMI-VOLATILE COMPOUNDS:									
Acenaphthene	10000000	52	J	56	J				
Acenaphthylene		38	J						
Anthracene	10000000	120	J	120	J				
9H-Carbazole		66	J	63	J				
Benzo(a)anthracene	4000	520		530					
Benzo(a)pyrene	660	500		450					
Benzo(b)fluoranthene		990		1100					
Benzo(g,h,i)perylene		130	J	130	J				
Benzo(k)fluoranthene	4000								
4-Bromophenyl ˆphenyl ether									
Butyl benzyl phthalate	10000000								
4-Chloroaniline	4200000	58	J						
bis(2-Chloroethoxy)-ˆmethane									
bis(2-Chloroethyl) ether	3000								
2,2'-oxybis(1-Chloropropane)									
4-Chloro-3-methylphenol	10000000								
2-Chloronaphthalene									
2-Chlorophenol	5200000								
4-Chlorophenyl ˆphenyl ether									
Chrysene	40000	500		580				1200	J
Di-n-butyl phthalate	10000000								
Dibenz(a,h)anthracene	660	69	J	42	J				
Dibenzofuran		49	J	43	J				
1,2-Dichlorobenzene	10000000	38	J	41	J				
1,3-Dichlorobenzene	10000000								
1,4-Dichlorobenzene	10000000								
3,3'-Dichlorobenzidine	6000								
2,4-Dichlorophenol	3100000								
Diethyl phthalate	10000000								
2,4-Dimethylphenol	10000000								
Dimethyl phthalate	10000000								
4,6-Dinitro-ˆ2-methylphenol									
2,4-Dinitrophenol	2100000								
2,4-Dinitrotoluene									
2,6-Dinitrotoluene									
Di-n-octyl phthalate	10000000								
bis(2-Ethylhexyl) ˆphthalate	210000	140	J	220	J	41	J	16000	
Fluoranthene	10000000	880		940				1900	J
Fluorene	10000000	42	J	39	J				
Hexachlorobenzene	2000	56	J	51	J				
Hexachlorobutadiene	210000								
Hexachlorocyclo-ˆpentadiene	7300000								
Hexachloroethane	100000								
Indeno(1,2,3-cd)pyrene	4000	140	J	140	J				
Isophorone	10000000								
2-Methylnaphthalene									
2-Methylphenol	10000000								
4-Methylphenol	10000000								
Naphthalene	4200000								
2-Nitroaniline									
3-Nitroaniline									
4-Nitroaniline									
Nitrobenzene	520000								
2-Nitrophenol									
4-Nitrophenol									
N-Nitrosodiphenylamine	600000								
N-Nitroso-di-ˆn-propylamine	660								
Pentachlorophenol	24000								
Phenanthrene		700		660					
Phenol	10000000								
Pyrene	10000000	930		1400				2300	J
1,2,4-Trichlorobenzene	1200000	210	J	140	J				
2,4,5-Trichlorophenol	10000000								
2,4,6-Trichlorophenol	270000								

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 8 (con't)
Aqueous Sampling Analytical Results
Semi-Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NEW JERSEY	500-S-1	500-S-1
SAMPLE RUN:	CLASS II-A		DILUTION
SAMPLE DATE:	GROUNDWATER	27 MAY 93	27 MAY 93
DILUTION FACTOR:	CRITERIA	200	20000
UNITS:	ug/L	ug/L	ug/L
SEMI-VOLATILE COMPOUNDS:			
Acenaphthene	400		
Acenaphthylene			
Anthracene	2000		
9H-Carbazole			
Benzo(a)anthracene			
Benzo(a)pyrene			
Benzo(b)fluoranthene			
Benzo(g,h,i)perylene			
Benzo(k)fluoranthene			
4-Bromophenyl ˆphenyl ether			
Butyl benzyl phthalate	100		
4-Chloroaniline			
bis(2-Chloroethoxy)-ˆmethane			
bis(2-Chloroethyl) ether	10		
2,2'-oxybis(1-Chloropropane)			
4-Chloro-3-methylphenol			
2-Chloronaphthalene			
2-Chlorophenol	40		
4-Chlorophenyl ˆphenyl ether			
Chrysene			
Di-n-butyl phthalate	900		
Dibenz(a,h)anthracene			
Dibenzofuran			
1,2-Dichlorobenzene	600		
1,3-Dichlorobenzene	600		
1,4-Dichlorobenzene	75		
3,3'-Dichlorobenzidine	60		
2,4-Dichlorophenol	20		
Diethyl phthalate	5000		
2,4-Dimethylphenol	100	94000 E	280000 D
Dimethyl phthalate			
4,6-Dinitro-ˆ2-methylphenol			
2,4-Dinitrophenol	40		
2,4-Dinitrotoluene	10		
2,6-Dinitrotoluene			
Di-n-octyl phthalate	100		
bis(2-Ethylhexyl) ˆphthalate	30		
Fluoranthene	300		
Fluorene	300		
Hexachlorobenzene	10		
Hexachlorobutadiene	1		
Hexachlorocyclo-ˆpentadiene	50		
Hexachloroethane	10		
Indeno(1,2,3-cd)pyrene			
Isophorone	100		
2-Methylnaphthalene			
2-Methylphenol		180000 E	810000 D
4-Methylphenol		180000 E	990000 D
Naphthalene			
2-Nitroaniline			
3-Nitroaniline			
4-Nitroaniline			
Nitrobenzene	10		
2-Nitrophenol			
4-Nitrophenol			
N-Nitrosodiphenylamine	20		
N-Nitroso-di-ˆn-propylamine	20		
Pentachlorophenol	1		
Phenanthrene			
Phenol	4000	160000 E	340000 D
Pyrene	200		
1,2,4-Trichlorobenzene	9		
2,4,5-Trichlorophenol	700		
2,4,6-Trichlorophenol	20		

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 8 (con't)
Soil Sampling Analytical Results
Semi-Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	700-S1-0.5'-2.5'	700-S1-2.5'-4.5'	700-S2-0.5'-2.5'	700-S3-0.5'-2.5'
SAMPLE RUN:	NON-RESIDENTIAL				
SAMPLE DATE:	CLEANUP	26 MAY 93	26 MAY 93	26 MAY 93	26 MAY 93
DILUTION FACTOR:	STANDARDS	2	1	1	1
UNITS:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
SEMI-VOLATILE COMPOUNDS:					
Acenaphthene	10000000	91 J		390 J	
Acenaphthylene				130 J	
Anthracene	10000000	190 J		750 J	
9H-Carbazole				300 J	
Benzo(a)anthracene	4000	820		2500	
Benzo(a)pyrene	660	690 J		1800	
Benzo(b)fluoranthene		1100		3000	
Benzo(g,h,i)perylene		440 J		880	
Benzo(k)fluoranthene	4000	240 J		670 J	
4-Bromophenyl ^phenyl ether					
Butyl benzyl phthalate	10000000	440 J			
4-Chloroaniline	4200000	82 J			
bis(2-Chloroethoxy)-^methane					
bis(2-Chloroethyl) ether	3000				
2,2'-oxybis(1-Chloropropane)					
4-Chloro-3-methylphenol	10000000				
2-Chloronaphthalene					
2-Chlorophenol	5200000			80 J	
4-Chlorophenyl ^phenyl ether					
Chrysene	40000	880		2400	
Di-n-butyl phthalate	10000000	1600		160 J	
Dibenz(a,h)anthracene	660			100 J	
Dibenzofuran				230 J	
1,2-Dichlorobenzene	10000000	1400		1500	
1,3-Dichlorobenzene	10000000			1100	
1,4-Dichlorobenzene	10000000	1200		4300	
3,3'-Dichlorobenzidine	6000				
2,4-Dichlorophenol	3100000				
Diethyl phthalate	10000000	100 J		130 J	
2,4-Dimethylphenol	10000000			3400	
Dimethyl phthalate	10000000				
4,6-Dinitro-^2-methylphenol					
2,4-Dinitrophenol	2100000				
2,4-Dinitrotoluene					
2,6-Dinitrotoluene					
Di-n-octyl phthalate	10000000				
bis(2-Ethylhexyl) ^phthalate	210000	4100	68 J	4900	62 J
Fluoranthene	10000000	1400		3800	
Fluorene	10000000			450 J	
Hexachlorobenzene	2000	1200		330 J	
Hexachlorobutadiene	210000				
Hexachlorocyclo-^pentadiene	7300000				
Hexachloroethane	100000				
Indeno(1,2,3-cd)pyrene	4000	400 J		960	
Isophorone	10000000				
2-Methylnaphthalene		770		250 J	
2-Methylphenol	10000000				
4-Methylphenol	10000000			1300	
Naphthalene	4200000	920		400 J	
2-Nitroaniline					
3-Nitroaniline					
4-Nitroaniline					
Nitrobenzene	520000				
2-Nitrophenol					
4-Nitrophenol					
N-Nitrosodiphenylamine	600000				
N-Nitroso-di-^n-propylamine	660				
Pentachlorophenol	24000				
Phenanthrene		950		4000	
Phenol	10000000	2700		510 J	
Pyrene	10000000	1600		4400	
1,2,4-Trichlorobenzene	1200000	690 J		3900	
2,4,5-Trichlorophenol	10000000				
2,4,6-Trichlorophenol	270000			130 J	

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 8 (con't)
Soil Sampling Analytical Results
Semi-Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	500-S2-0.5'-2.5'	
SAMPLE RUN:	NON-RESIDENTIAL		
SAMPLE DATE:	CLEANUP	26 MAY 93	
DILUTION FACTOR:	STANDARDS	1	
UNITS:	ug/kg	ug/kg	
SEMI-VOLATILE COMPOUNDS:			
Acenaphthene	10000000		
Acenaphthylene			
Anthracene	10000000		
9H-Carbazole			
Benzo(a)anthracene	4000		
Benzo(a)pyrene	660		
Benzo(b)fluoranthene			
Benzo(g,h,i)perylene			
Benzo(k)fluoranthene	4000		
4-Bromophenyl ^phenyl ether			
Butyl benzyl phthalate	10000000		
4-Chloroaniline	4200000		
bis(2-Chloroethoxy)-^methane			
bis(2-Chloroethyl) ether	3000		
2,2'-oxybis(1-Chloropropane)			
4-Chloro-3-methylphenol	10000000		
2-Chloronaphthalene			
2-Chlorophenol	5200000		
4-Chlorophenyl ^phenyl ether			
Chrysene	40000		
Di-n-butyl phthalate	10000000	310	J
Dibenz(a,h)anthracene	660		
Dibenzofuran			
1,2-Dichlorobenzene	10000000		
1,3-Dichlorobenzene	10000000		
1,4-Dichlorobenzene	10000000		
3,3'-Dichlorobenzidine	6000		
2,4-Dichlorophenol	3100000		
Diethyl phthalate	10000000		
2,4-Dimethylphenol	10000000	690	
Dimethyl phthalate	10000000		
4,6-Dinitro-^2-methylphenol			
2,4-Dinitrophenol	2100000		
2,4-Dinitrotoluene			
2,6-Dinitrotoluene			
Di-n-octyl phthalate	10000000		
bis(2-Ethylhexyl) ^phthalate	210000	620	
Fluoranthene	10000000		
Fluorene	10000000		
Hexachlorobenzene	2000		
Hexachlorobutadiene	210000		
Hexachlorocyclo-^pentadiene	7300000		
Hexachloroethane	100000		
Indeno(1,2,3-cd)pyrene	4000		
Isophorone	10000000		
2-Methylnaphthalene			
2-Methylphenol	10000000		
4-Methylphenol	10000000	67	J
Naphthalene	4200000		
2-Nitroaniline			
3-Nitroaniline			
4-Nitroaniline			
Nitrobenzene	520000		
2-Nitrophenol			
4-Nitrophenol			
N-Nitrosodiphenylamine	600000		
N-Nitroso-di-^n-propylamine	660		
Pentachlorophenol	24000		
Phenanthrene			
Phenol	10000000		
Pyrene	10000000		
1,2,4-Trichlorobenzene	1200000		
2,4,5-Trichlorophenol	10000000		
2,4,6-Trichlorophenol	270000		

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 8
Soil Sampling Analytical Results
Pesticide Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	GH-S1-0.5'-2.5'		GH-S1-0.5'-2.5' REPLICATE		GH-S1-0.5'-2.5' REPLICATE DILUTION		GH-S2-0.5'-2.5'		GH-S2-0.5'-2.5' REPLICATE	
SAMPLE RUN:	NON-RESIDENTIAL										
SAMPLE DATE:	CLEANUP	01 JUN 93		01 JUN 93		01 JUN 93		01 JUN 93		01 JUN 93	
DILUTION FACTOR:	STANDARDS	1		1		2		1		1	
UNITS:	ug/kg	ug/kg		ug/kg		ug/kg		ug/kg		ug/kg	
PESTICIDES:											
alpha-BHC		2.5	B	1.1	J,P	1.1	D,J,P	25	B,P	22	P
beta-BHC		15	B	14		14	D	13	B	14	
delta-BHC		1.4	JP	1.8		1.6	D,J	2.7	P	3.2	P
gamma-BHC (Lindane)	2200	1.2	B,J	0.39	B,J,P	0.35	B,D,J,P	3.4	B	2.7	B
Heptachlor	650			0.60	B,J,P						
Aldrin	170										
Heptachlor epoxide		0.14	J,P	0.21	J,P					0.67	J,P
Endosulfan I	52000										
Dieldrin	1000000			0.92	B,J,P	0.77	B,D,J,P			1.5	B,J
4,4'-DDE	9000	14	B	16	B	16	B,D	5.9	B	6.6	B
Endrin	310000	0.15	J,P	0.77	J,P	0.68	D,J			0.43	J,P
Endosulfan II	52000	0.47	J,P	2.9	J,P	2.4	D,J,P	0.66	J,P		
4,4'-DDD	12000	22	B,P	31	B,P	28	B,D,P	28	B	81	B
Endosulfan sulfate											
4,4'-DDT	9000	38	B	64	B	60	B,D,P	40	B	130	B
Methoxychlor	5200000			36	B	32	B,D,J			4.1	B,J,P
Endrin ketone				0.89	J,P			0.43	J,P		
Endrin aldehyde						1.2	D,J,P				
alpha-Chlordane		0.39	J,P	0.60	B,J,P	0.49	B,D,J,P	0.49	J,P	1.5	B,J
gamma-Chlordane		0.22	J,P	0.37	J,P	0.31	D,J,P	0.30	J,P	0.44	J,P
Toxaphene	200										
Aroclor 1016	2000										
Aroclor 1221	2000										
Aroclor 1232	2000										
Aroclor 1242	2000										
Aroclor 1248	2000										
Aroclor 1254	2000										
Aroclor 1260	2000										

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
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C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 8 (con't)
Soil Sampling Analytical Results
Pesticide Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	GH-S2-0.5'-2.5'		LAB-S1-2.0'-2.5'		LAB-S1-2.0'-2.5'		LAB-S1-2.0'-2.5'		LAB-S1-2.0'-2.5'	
SAMPLE RUN:	NON-RESIDENTIAL	REPLICATE DILUTION				REPLICATE		DILUTION		REPLICATE DILUTION	
SAMPLE DATE:	CLEANUP	01 JUN 93		01 JUN 93		01 JUN 93		01 JUN 93		01 JUN 93	
DILUTION FACTOR:	STANDARDS	5		10000		4000		100000		40000	
UNITS:	ug/kg	ug/kg		ug/kg		ug/kg		ug/kg		ug/kg	
PESTICIDES:											
alpha-BHC		27	D	57000	B,C	29000	C	58000	B,C,D,J	23000	C,D,J,P
beta-BHC		18	D	16000	B,C,J	6900	C,J	19000	B,D,J,P	6200	D,J,P,C
delta-BHC		4.2	D,J,P	40000	C	18000	C	43000	C,D,J	16000	D,J,P,C
gamma-BHC (Lindane)	2200	2.9	B,D,J,P	22000	B,C	11000	B,C	23000	B,C,D,J, P	9300	B,D,J,P,C
Heptachlor	650										
Aldrin	170										
Heptachlor epoxide		1.4	D,J			37	J,P				
Endosulfan I	52000										
Dieldrin	1000000	1.2	B,D,J,P	4400	J,P	360	B,J,P				
4,4'-DDE	9000	7.8	B,D,J	51000	B,C	26000	B,C	55000	B,C,D,J	28000	B,C,D,J
Endrin	310000	0.29	D,J,P								
Endosulfan II	52000										
4,4'-DDD	12000	80	B,D,P	630000	B,P,C	350000	B,C	710000	B,D,P,C	350000	B,D,P,C
Endosulfan sulfate											
4,4'-DDT	9000	140	B,D	2100000	B,C	1300000	B,C	2400000	B,C,D	1200000	B,C,D,P
Methoxychlor	5200000	4.7	B,D,J,P								
Endrin ketone											
Endrin aldehyde		1.5	D,J,P			66	J,P				
alpha-Chlordane		1.5	B,D,J			4300	B,J,P			3600	B,D,J,P
gamma-Chlordane				1300	J	920	J				
Toxaphene	200										
Aroclor 1016	2000										
Aroclor 1221	2000										
Aroclor 1232	2000										
Aroclor 1242	2000										
Aroclor 1248	2000										
Aroclor 1254	2000										
Aroclor 1260	2000										

NOTE:
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Table - 8 (con't)
Soil Sampling Analytical Results
Pesticide Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	LAB-S2-2.0'-2.5'		LAB-S2-2.0'-2.5'		LAB-S2-2.0'-2.5'		LAB-S2-2.0'-2.5'	
SAMPLE RUN:	NON-RESIDENTIAL			REPLICATE		REPLICATE DILUTION		DILUTION	
SAMPLE DATE:	CLEANUP	01 JUN 93		01 JUN 93		01 JUN 93		01 JUN 93	
DILUTION FACTOR:	STANDARDS	5000		2500		25000		50000	
UNITS:	ug/kg	ug/kg		ug/kg		ug/kg		ug/kg	
PESTICIDES:									
alpha-BHC		27000	B,C	11000	C	11000	D,J,P,C	25000	B,D,J,P,C
beta-BHC		7000	B,C,J	2600	C,J	3000	D,J,P,C	6800	B,C,D,J
delta-BHC		15000	P,C	5800	C,J	7300	D,J,P,C	15000	D,J,P,C
gamma-BHC (Lindane)	2200	8500	B,C,J	4000	B,C,J	3900	B,D,J,P,C	8600	B,C,D,J
Heptachlor	650								
Aldrin	170								
Heptachlor epoxide									
Endosulfan I	52000								
Dieldrin	1000000	1100	J,P	1000	B,J,P	670	B,D,J,P		
4,4'-DDE	9000	97000	B,C	32000	B,C	34000	B,C,D,J	100000	B,C,D,J
Endrin	310000								
Endosulfan II	52000								
4,4'-DDD	12000	580000	B,C	290000	B,C	260000	B,D,P,C	560000	B,D,P,C
Endosulfan sulfate									
4,4'-DDT	9000	1800000	B,C	800000	B,C	780000	B,C,D	1800000	B,C,D
Methoxychlor	5200000								
Endrin ketone									
Endrin aldehyde									
alpha-Chlordane				4000	B,J,P	4100	B,D,J,P		
gamma-Chlordane		2000	J,P	950	J,P	730	D,J,P	2000	D,J,P
Toxaphene	200								
Aroclor 1016	2000								
Aroclor 1221	2000								
Aroclor 1232	2000								
Aroclor 1242	2000								
Aroclor 1248	2000								
Aroclor 1254	2000								
Aroclor 1260	2000								

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Table - 8 (con't)
Soil Sampling Analytical Results
Pesticide Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED NON-RESIDENTIAL CLEANUP STANDARDS	FP-S2-1'-3'		FP-S2-1'-3' REPLICATE		FP-S2-1'-3' DILUTION		FP-S2-1'-3' REPLICATE DILUTION	
SAMPLE RUN:									
SAMPLE DATE:		01 JUN 93		01 JUN 93		01 JUN 93		01 JUN 93	
DILUTION FACTOR:		5000		5000		50000		50000	
UNITS:	ug/kg	ug/kg		ug/kg		ug/kg		ug/kg	
PESTICIDES:									
alpha-BHC		59000	B,C	13000	C	63000	B,D,J,P,C	14000	C,D,J
beta-BHC									
delta-BHC									
gamma-BHC (Lindane)	2200	43000	B,C	11000	B,C	46000	B,D,J,P,C	11000	B,C,D,J,P
Heptachlor	650					610	D,J,P		
Aldrin	170								
Heptachlor epoxide									
Endosulfan I	52000								
Dieldrin	1000000	920	JP	1900	B,J,P	2200	D,J,P		
4,4'-DDE	9000	93000	B,C	35000	B,C	100000	B,D,J,P,C	40000	B,C,D,J
Endrin	310000	1100	J,P						
Endosulfan II	52000								
4,4'-DDD	12000	150000	B,P,C	180000	B,P,C	240000	B,C,D	180000	B,D,J,P,C
Endosulfan sulfate									
4,4'-DDT	9000	1600000	B,C	1600000	B,C	1900000	B,C,D	1600000	B,C,D
Methoxychlor	5200000								
Endrin ketone									
Endrin aldehyde									
alpha-Chlordane		2900	J	1800	B,J,P			120	B,D,J,P
gamma-Chlordane		2100	J,P	640	J,P				
Toxaphene	200								
Aroclor 1016	2000								
Aroclor 1221	2000								
Aroclor 1232	2000								
Aroclor 1242	2000								
Aroclor 1248	2000								
Aroclor 1254	2000								
Aroclor 1260	2000								

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Table - 8 (con't)
Soil Sampling Analytical Results
Pesticide Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	TRUCK-S1-0.5'-2.5'		TRUCK-S1-0.5'-2.5' DILUTION		TRUCK-S2-0.5'-2.5'		TRUCK-S2-0.5'-2.5' DILUTION		TRUCK-S3-1.0'-3.0'	
SAMPLE RUN:	NON-RESIDENTIAL										
SAMPLE DATE:	CLEANUP	28 MAY 93		28 MAY 93		28 MAY 93		28 MAY 93		28 MAY 93	
DILUTION FACTOR:	STANDARDS	2		20		10		100		500	
UNITS:	ug/kg	ug/kg		ug/kg		ug/kg		ug/kg		ug/kg	
PESTICIDES:											
alpha-BHC		54	B,P	67	B,D	1100	B,P,C	1400	B,C,D	610	B,J
beta-BHC		230	B	350	B,D	920	B,C	1300	B,C,D	1800	B,P
delta-BHC		4.9	P			22	P	24	D,J,P		
gamma-BHC (Lindane)	2200	6.9	B	7.7	B,D,J	42	B	38	B,D,J,P		
Heptachlor	650										
Aldrin	170										
Heptachlor epoxide		3.9		2.3	D,J,P	3.1	J,P				
Endosulfan I	52000										
Dieldrin	1000000	7.6	P	7.4	D,J,P	28	J,P	12	D,J,P	1400	J,P
4,4'-DDE	9000	210	B	220	B,D	370	B,C	370	B,C,D	16000	B,C
Endrin	310000					16	J,P			64	J,P
Endosulfan II	52000	8.9		8.3	D,J,P	38				930	J
4,4'-DDD	12000	620	B,C	890	B,C,D	1800	B,C	1800	B,C,D.P	190000	B,C
Endosulfan sulfate											
4,4'-DDT	9000	530	B,C	610	B,C,D	2600	B,C,D	2600	B,C,D		
Methoxychlor	5200000					93	J				
Endrin ketone											
Endrin aldehyde											
alpha-Chlordane				11	B,D,J,P			23	B,D,J,P		
gamma-Chlordane		5.5		3.1	D,J,P	6.0	J,P	6.4	D,J,P		
Toxaphene	200										
Aroclor 1016	2000										
Aroclor 1221	2000										
Aroclor 1232	2000										
Aroclor 1242	2000										
Aroclor 1248	2000									25000	P,C
Aroclor 1254	2000										
Aroclor 1260	2000										

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Table - 8 (con't)
Soil Sampling Analytical Results
Pesticide Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	TRUCK-S3-1.0'-3.0'		TRUCK-S4-0.5'-2.5'		TRUCK-S4-0.5'-2.5'		TRUCK-S4-2.5'-4.5'		TRUCK-S4-2.5'-4.5'	
SAMPLE RUN:	NON-RESIDENTIAL	DILUTION				DILUTION				DILUTION	
SAMPLE DATE:	CLEANUP	28 MAY 93		28 MAY 93		28 MAY 93		28 MAY 93		28 MAY 93	
DILUTION FACTOR:	STANDARDS	5000		100		1000		40		400	
UNITS:	ug/kg	ug/kg		ug/kg		ug/kg		ug/kg		ug/kg	
PESTICIDES:											
alpha-BHC		660	B,D,J	1300	B,C	1700	B,C,D,J	180	B	150	B,D,J,P
beta-BHC		2000	B,D,J,P	400	B	420	B,D,J,P	90	B,P	93	B,D,J,P
delta-BHC				420	P	550	D,J,P	240	P	290	D,J,P
gamma-BHC (Lindane)	2200			110	B,J	120	B,D,J	28	B,J	31	B,D,J
Heptachlor	650										
Aldrin	170										
Heptachlor epoxide				7.8	J,P			4.9	J		
Endosulfan I	52000			9.8	J,P						
Dieldrin	1000000	2100	D,J	240	J	290	D,J,P	130	J,P	150	D,J,P
4,4'-DDE	9000	16000	B,C,D,J	1200	B,C	1500	B,D,J,P,C	580	B,P,C	700	B,D,J,P,C
Endrin	310000										
Endosulfan II	52000	270	D,J,P					40	J		
4,4'-DDD	12000	240000	B,C,D	24000	B,P,C	35000	B,C,D	13000	B,C	18000	B,C,D
Endosulfan sulfate											
4,4'-DDT	9000			16000	B,C	19000	B,C,D	6000	B,C	6600	B,C,D
Methoxychlor	5200000										
Endrin ketone											
Endrin aldehyde											
alpha-Chlordane								45	B,J,P	50	B,D,J,P
gamma-Chlordane								17	J,P	11	D,J,P
Toxaphene	200										
Aroclor 1016	2000										
Aroclor 1221	2000										
Aroclor 1232	2000										
Aroclor 1242	2000										
Aroclor 1248	2000	33000	D,J,C								
Aroclor 1254	2000										
Aroclor 1260	2000										

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Table - 8 (con't)
Soil Sampling Analytical Results
Pesticide Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED NON-RESIDENTIAL CLEANUP STANDARDS	TRUCK-S5-0.5'-2.5'		TRUCK-S5-0.5'-2.5' DILUTION		TRUCK-S5-2.5'-4.5'		TRUCK-S5-2.5'-4.5' DILUTION		TRUCK-S6-1.0'-3.0'	
SAMPLE RUN:		28 MAY 93		28 MAY 93		28 MAY 93		28 MAY 93		28 MAY 93	
SAMPLE DATE:											
DILUTION FACTOR:		200		2000		200		2000		1	
UNITS:	ug/kg	ug/kg		ug/kg		ug/kg		ug/kg		ug/kg	
PESTICIDES:											
alpha-BHC		17000	B,P,C	22000	B,C,D	22000	B,P,C	31000	B,C,D	70	B,P
beta-BHC		25000	B,C	33000	B,C,D	7300	B,C	10000	B,C,D	110	B,P
delta-BHC		350	J,P	320	D,J,P	1600	P	1900	D,J		
gamma-BHC (Lindane)	2200	1700	B,P,C	1500	B,D,J,P	130	B,J	140	B,D,J	17	B,P
Heptachlor	650			230	D,J,P	20	J,P	44	D,J,P		
Aldrin	170										
Heptachlor epoxide		18	J,P			12	J,P			59	P
Endosulfan I	52000									40	P
Dieldrin	1000000	750	J,P,C	1300	D,J,P,C	510	J,P			46	P
4,4'-DDE	9000	5500	B,C	6500	B,D,J,P,C	2000	B	2800	B,D,J,P	97	B
Endrin	310000									55	P
Endosulfan II	52000									110	
4,4'-DDD	12000	57000	B,P,C	71000	B,C,D	77000	B,C	110000	B,C,D	320	B
Endosulfan sulfate											
4,4'-DDT	9000	870	B,C			2100	B	2200	B,D,J	220	B
Methoxychlor	5200000					130	J,P				
Endrin ketone										100	
Endrin aldehyde		570	J,P								
alpha-Chlordane		400	B,J,P	210	B,D,J,P					33	B,P
gamma-Chlordane		120	J,P			73	J			29	
Toxaphene	200										
Aroclor 1016	2000										
Aroclor 1221	2000										
Aroclor 1232	2000										
Aroclor 1242	2000										
Aroclor 1248	2000										
Aroclor 1254	2000										
Aroclor 1260	2000										

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Table - 8 (con't)
Soil Sampling Analytical Results
Pesticide Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	TRUCK-S6-1.0'-3.0'		TRUCK-S7-1.0'-3.0'		TRUCK-S7-1.0'-3.0'	
SAMPLE RUN:	NON-RESIDENTIAL	DILUTION				DILUTION	
SAMPLE DATE:	CLEANUP	28 MAY 93		28 MAY 93		28 MAY 93	
DILUTION FACTOR:	STANDARDS	10		5		50	
UNITS:	ug/kg	ug/kg		ug/kg		ug/kg	
PESTICIDES:							
alpha-BHC		80	B,D	370	B,P,C	500	B,C,D
beta-BHC		150	B,D	430	B,P,C	630	B,C,D
delta-BHC				30	P	25	D,J,P
gamma-BHC (Lindane)	2200			49	B	56	B,D,J
Heptachlor	650						
Aldrin	170						
Heptachlor epoxide		48	D,P	20	P	4.4	D,J,P
Endosulfan I	52000	44	D				
Dieldrin	1000000	48	D,P	58	P	43	D,J,P
4,4'-DDE	9000	89	B,D,P	530	B,C	490	B,C,D
Endrin	310000						
Endosulfan II	52000	130	D	51	P	31	D,J,P
4,4'-DDD	12000	320	B,D,P	1100	B,P,C	1200	B,C,D
Endosulfan sulfate							
4,4'-DDT	9000	240	B,D	500	B,C	450	B,D,P,C
Methoxychlor	5200000	110	D,J,P	40	J,P		
Endrin ketone		130	D	50		7.2	D,J,P
Endrin aldehyde				33			
alpha-Chlordane		39	B,D,P	32	B,P	31	B,D,J
gamma-Chlordane				19	P	1.2	D,J,P
Toxaphene	200						
Aroclor 1016	2000						
Aroclor 1221	2000						
Aroclor 1232	2000						
Aroclor 1242	2000						
Aroclor 1248	2000						
Aroclor 1254	2000						
Aroclor 1260	2000						

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Soil Sampling Analytical Results
Pesticide Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	100-S1-0.5'-2.5'		100-S1-0.5'-2.5' DILUTION		100-S2-0.5'-2.5'		100-S2-0.5'-2.5' DILUTION	
SAMPLE RUN:	NON-RESIDENTIAL								
SAMPLE DATE:	CLEANUP	27 MAY 93		27 MAY 93		27 MAY 93		27 MAY 93	
DILUTION FACTOR:	STANDARDS	20000		200000		2		20	
UNITS:	ug/kg	ug/kg		ug/kg		ug/kg		ug/kg	
PESTICIDES:									
alpha-BHC		180000	B,C	170000	B,C,D,J	54	B,P	66	B,D
beta-BHC		31000	B,J,Y	26000	B,D,J,Y	76	B	110	B,D
delta-BHC		1800	J,P,C						
gamma-BHC (Lindane)	2200	3300	B,J,P,C			10	B,P	12	B,D,J,P
Heptachlor	650								
Aldrin	170					10	B,P		
Heptachlor epoxide						5.7		4.3	D,J,P
Endosulfan I	52000								
Dieldrin	1000000	26000	J	5500	D,J,P				
4,4'-DDE	9000	87000	B,C	100000	B,D,J,P,C	610	B,C	680	B,C,D
Endrin	310000	19000	J,P	5400	D,J,P				
Endosulfan II	52000					46	P	56	D,J,P
4,4'-DDD	12000					670	B,C	860	B,C,D
Endosulfan sulfate						26	P	34	D,J
4,4'-DDT	9000	10000000	B,C	10000000	B,C,D	190	B	200	B,D
Methoxychlor	5200000					52		6.0	D,J,P
Endrin ketone									
Endrin aldehyde						15	P	15	D,J,P
alpha-Chlordane		10000	B,J,P	6900	B,D,J,P	8.9	B,P	18	B,D,J,P
gamma-Chlordane						12	P	13	D,J,P
Toxaphene	200								
Aroclor 1016	2000								
Aroclor 1221	2000								
Aroclor 1232	2000								
Aroclor 1242	2000								
Aroclor 1248	2000								
Aroclor 1254	2000								
Aroclor 1260	2000								

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 8 (con't)
Soil Sampling Analytical Results
Pesticide Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	100-S3-0.67'-2.67'		100-S3-0.67'-2.67' DILUTION		100-S4-2.5'-4.5'		100-S4-2.5'-4.5' DILUTION	
SAMPLE RUN:	NON-RESIDENTIAL								
SAMPLE DATE:	CLEANUP	27 MAY 93		27 MAY 93		27 MAY 93		27 MAY 93	
DILUTION FACTOR:	STANDARDS	25		250		100		1000	
UNITS:	ug/kg	ug/kg		ug/kg		ug/kg		ug/kg	
PESTICIDES:									
alpha-BHC		390	B	440	B,D,J,P	520	B,C	550	B,D,J,P,C
beta-BHC		2300	B,C	3600	B,C,D	12000	B,C,Y	18000	B,C,D,Y
delta-BHC		64	P			140	J,P	120	D,J,P
gamma-BHC (Lindane)	2200	48	B,J,P			47	B,J,P	41	BDJP
Heptachlor	650	120		140	D,J,P				
Aldrin	170								
Heptachlor epoxide		86	P	89	D,J,P				
Endosulfan I	52000								
Dieldrin	1000000								
4,4'-DDE	9000	6200	B,C	6600	B,C,D	910	B,C	980	B,C,D,J
Endrin	310000	100	J,P	41	D,J,P				
Endosulfan II	52000	410	P			22	J,P		
4,4'-DDD	12000	7000	B,P,C	9600	B,C,D	1100	B,P,C	1500	B,C,D,J
Endosulfan sulfate		84	J						
4,4'-DDT	9000	360	B,P	330	B,D,J,P	1400	B,C	1400	B,C,D,J
Methoxychlor	5200000	290	J,P						
Endrin ketone									
Endrin aldehyde		110	P	74	D,J,P				
alpha-Chlordane				210	BDJP	25	B,J,P	15	B,D,J,P
gamma-Chlordane		150	P	160	D,J,P	8.6	J,P		
Toxaphene	200								
Aroclor 1016	2000								
Aroclor 1221	2000								
Aroclor 1232	2000								
Aroclor 1242	2000								
Aroclor 1248	2000								
Aroclor 1254	2000								
Aroclor 1260	2000								

NOTE:
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D - Analysis at a secondary dilution factor
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Y - GC/MS confirmation is indeterminate

Table - 8 (con't)
Soil Sampling Analytical Results
Pesticide Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	ABUST-S1-0.5'-2.5'		ABUST-S1-0.5'-2.5' DILUTION		FP-S1-1.0'-3.0'		FP-S1-1.0'-3.0' DILUTION	
SAMPLE RUN:	NON-RESIDENTIAL								
SAMPLE DATE:	CLEANUP	27 MAY 93		27 MAY 93		27 MAY 93		27 MAY 93	
DILUTION FACTOR:	STANDARDS	50000		500000		500		5000	
UNITS:	ug/kg	ug/kg		ug/kg		ug/kg		ug/kg	
PESTICIDES:									
alpha-BHC		2200000	B,P,C	2300000	B,C,D	55000	B,P,C	69000	B,C,D
beta-BHC		85000	B,J,P,C	100000	B,D,J,P,C	8500	B,C	9800	B,C,D,J
delta-BHC		46000	J,P,C	41000	D,J,P,C	6400	C	7500	C,D,J
gamma-BHC (Lindane)	2200	100000	B,C,J	95000	B,D,J,P,C	4900	B,C	4700	B,C,D,J,P
Heptachlor	650								
Aldrin	170	2500	B,J						
Heptachlor epoxide						29	J,P		
Endosulfan I	52000								
Dieldrin	1000000	40000	J	28000	D,J,P	390	J,P	300	D,J,P
4,4'-DDE	9000	510000	B,C	520000	B,C,D,J	14000	B,C	14000	B,C,D,J
Endrin	310000								
Endosulfan II	52000					96	J,P		
4,4'-DDD	12000					140000	B,P,C	170000	B,C,D
Endosulfan sulfate									
4,4'-DDT	9000	17000000	B,C	15000000	B,C,D	1700	B,C,J	1600	B,D,J,P,C
Methoxychlor	5200000								
Endrin ketone									
Endrin aldehyde									
alpha-Chlordane		20000	B,J,P	16000	B,D,J,P	1400	B,P	1500	B,D,J,P
gamma-Chlordane		4800	J,P			160	J,P		
Toxaphene	200								
Aroclor 1016	2000								
Aroclor 1221	2000								
Aroclor 1232	2000								
Aroclor 1242	2000								
Aroclor 1248	2000								
Aroclor 1254	2000								
Aroclor 1260	2000								

NOTE:
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D - Analysis at a secondary dilution factor
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C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 8 (con't)
Soil Sampling Analytical Results
Pesticide Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	LISTER-S1-0.5'-2.5'		LISTER-S1-0.5'-2.5'		LISTER-S1-6.5'-8.5'		LISTER-S2-2.5'-4.5'		LISTER-S2-2.5'-4.5'	
SAMPLE RUN:	NON-RESIDENTIAL	27 MAY 93		27 MAY 93						DILUTION	
SAMPLE DATE:	CLEANUP			DILUTION		27 MAY 93		27 MAY 93		27 MAY 93	
DILUTION FACTOR:	STANDARDS	100		1000				2		20	
UNITS:	ug/kg	ug/kg		ug/kg		ug/kg		ug/kg		ug/kg	
PESTICIDES:											
alpha-BHC		480	B,C	500	B,D,J,P	2.2	B	48	B,P	60	B,D
beta-BHC		15000	B,C	21000	B,C,D	8.1	B	67	B	82	B,D
delta-BHC		38	J,P	46	D,J,P	0.27	J,P				
gamma-BHC (Lindane)	2200	160	B,J,P	140	B,D,J,P	0.26	B,J,P			3.4	B,D,J,P
Heptachlor	650										
Aldrin	170										
Heptachlor epoxide		4.6	J,P					3.1	J,P	2.8	D,J
Endosulfan I	52000										
Dieldrin	1000000					0.062	J,P	6.2	J,P		
4,4'-DDE	9000	2200	B,C	2600	B,C,D,J	2.8	B,J,P	41	B	45	B,D,J
Endrin	310000										
Endosulfan II	52000							13	P	7.0	D,J,P
4,4'-DDD	12000					5.0	B	160	B,P	190	BD
Endosulfan sulfate											
4,4'-DDT	9000	5600	B,C	5400	B,C,D	16	B	780	B,C	840	B,C,D
Methoxychlor	5200000							16	J,P		
Endrin ketone											
Endrin aldehyde											
alpha-Chlordane		30	B,J,P			0.088	B,J,P	2.8	B,J,P	3.7	B,D,J
gamma-Chlordane		1.2	J,P					0.96	J,P	1.4	D,J,P
Toxaphene	200										
Aroclor 1016	2000										
Aroclor 1221	2000										
Aroclor 1232	2000										
Aroclor 1242	2000										
Aroclor 1248	2000										
Aroclor 1254	2000										
Aroclor 1260	2000										

NOTE:
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B - Analyte was also detected in blank samples
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Table - 8 (con't)
Aqueous Sampling Analytical Results
Pesticide Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NEW JERSEY	500-S-1		500-S-1	
SAMPLE RUN:	CLASS II-A			DILUTION	
SAMPLE DATE:	GROUNDWATER	27 MAY 93		27 MAY 93	
DILUTION FACTOR:	CRITERIA	1		10	
UNITS:	ug/L	ug/L		ug/L	
PESTICIDES:					
alpha-BHC	0.02	0.31	P	0.32	D,J
beta-BHC	0.2	1.8		2.2	D
delta-BHC					
gamma-BHC (Lindane)	0.2	0.13		0.056	D,J,P
Heptachlor	0.4	0.38	P	0.42	D,J,P
Aldrin	0.04			0.12	D,J,P
Heptachlor epoxide	0.2	0.14	P	0.084	D,J,P
Endosulfan I	0.4				
Dieldrin	0.03	0.12	P		
4,4'-DDE	0.1	0.16	P	0.038	D,J,P
Endrin	2	0.18	P	0.040	D,J,P
Endosulfan II	0.4	0.18		0.022	D,J,P
4,4'-DDD	0.1	0.25	P	0.064	D,J,P
Endosulfan sulfate	0.4				
4,4'-DDT	0.1				
Methoxychlor	40				
Endrin ketone					
Endrin aldehyde					
alpha-Chlordane					
gamma-Chlordane		0.12		0.043	D,J
Toxaphene	3				
Aroclor 1016	0.5				
Aroclor 1221	0.5				
Aroclor 1232	0.5				
Aroclor 1242	0.5				
Aroclor 1248	0.5				
Aroclor 1254	0.5				
Aroclor 1260	0.5				

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E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
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Table - 8 (con't)
Soil Sampling Analytical Results
Pesticide Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	700-S1-0.5'-2.5'		700-S1-0.5'-2.5'		700-S1-2.5'-4.5'		700-S1-2.5'-4.5'		700-S2-0.5'-2.5'	
SAMPLE RUN:	NON-RESIDENTIAL			*DILUTION*				*DILUTION*			
SAMPLE DATE:	CLEANUP	26 MAY 93		26 MAY 93		26 MAY 93		26 MAY 93		26 MAY 93	
DILUTION FACTOR:	STANDARDS	10		100		1		10		400	
UNITS:	ug/kg	ug/kg		ug/kg		ug/kg		ug/kg		ug/kg	
PESTICIDES:											
alpha-BHC		98	B,P	84	B,D,J,P	59	B,P	82	B,D	41000	B,P,C
beta-BHC		350	C	530	C,D	85		120	D	12000	C
delta-BHC		100	P			37		45	D	320	J,P
gamma-BHC (Lindane)	2200	17	J,P	6.4	D,J,P	2.4	P	4.3	D,J,P	340	J,P
Heptachlor	650	15	B,J			2.1	B				
Aldrin	170					7.7	P	12	D,J		
Heptachlor epoxide											
Endosulfan I	52000										
Dieldrin	1000000									310	J,P
4,4'-DDE	9000	950	C	1000	C,D	66		82	D	7000	C
Endrin	310000	7.9	J,P			3.1	J	0.55	D,J,P		
Endosulfan II	52000	40	P	37	D,J,P	28	P	39	D,J		
4,4'-DDD	12000	1500	B,P,C	2100	B,C,D	110	B	140	B,D	17000	B,C
Endosulfan sulfate											
4,4'-DDT	9000	730	B,C	810	B,C,D					13000	B,C
Methoxychlor	5200000										
Endrin ketone											
Endrin aldehyde		33	J,P	69	D,J,P	9.3	P	15	D,J,P		
alpha-Chlordane		50	P	110	D,J	5.1	P			550	J,P
gamma-Chlordane		17	J,P	31	D,J,P	3.3	P	3.2	D,J,P	440	J,P
Toxaphene	200										
Aroclor 1016	2000										
Aroclor 1221	2000										
Aroclor 1232	2000										
Aroclor 1242	2000										
Aroclor 1248	2000										
Aroclor 1254	2000										
Aroclor 1260	2000										

NOTE:
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Table - 8 (con't)
Soil Sampling Analytical Results
Pesticide Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	700-S2-0.5'-2.5'		700-S3-0.5'-2.5'		700-S3-0.5'-2.5'		500-S2-0.5'-2.5'		500-S2-0.5'-2.5'	
SAMPLE RUN:	NON-RESIDENTIAL	DILUTION				DILUTION				DILUTION	
SAMPLE DATE:	CLEANUP	26 MAY 93		26 MAY 93		26 MAY 93		26 MAY 93		26 MAY 93	
DILUTION FACTOR:	STANDARDS	4000		10		100		10		100	
UNITS:	ug/kg	ug/kg		ug/kg		ug/kg		ug/kg		ug/kg	
PESTICIDES:											
alpha-BHC		51000	B,C,D	400	B,P,C	480	B,C,D	260	B,P	340	B,D
beta-BHC		15000	C,D	640	C	860	C,D	930	C	1400	C,D
delta-BHC		350	D,J,P	33	P	32	D,J,P	94	P	110	D,J,P
gamma-BHC (Lindane)	2200	320	D,J,P	5.6	J	4.7	D,J	12	J,P		
Heptachlor	650							5.7	B,J,P		
Aldrin	170			0.60	J,P						
Heptachlor epoxide				2.0	J			8.8	J		
Endosulfan I	52000										
Dieldrin	1000000	240	D,J	35	J	36	D,J				
4,4'-DDE	9000	6600	C,D,J	610	C	580	C,D	190		220	D,J
Endrin	310000							10	J,P		
Endosulfan II	52000			6.3	J,P	4.9	D,J,P	26	J,P	14	D,J,P
4,4'-DDD	12000	17000	B,C,D	2500	B,P,C	3100	B,C,D	1000	B,P,C	1300	B,C,D
Endosulfan sulfate											
4,4'-DDT	9000	13000	B,C,D,J	360	B	370	B,D,J	30	B,J,P		
Methoxychlor	5200000			18	J,P						
Endrin ketone											
Endrin aldehyde				4.4	J,P	8.9	D,J	74	P		
alpha-Chlordane		170	D,J,P	26	P	25	D,J,P	23		4.4	D,J,P
gamma-Chlordane				13	J,P	11	D,J	14	J,P	2.7	D,J,P
Toxaphene	200										
Aroclor 1016	2000										
Aroclor 1221	2000										
Aroclor 1232	2000										
Aroclor 1242	2000										
Aroclor 1248	2000										
Aroclor 1254	2000										
Aroclor 1260	2000										

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Table - 8 (con't)
Soil Sampling Analytical Results
Dioxin Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	DSDB-S1	DSDB-S2
SAMPLE RUN:		
SAMPLE DATE:	7 JUL 93	7 JUL 93
DILUTION FACTOR:	1	1
UNITS:	ug/Kg	ug/Kg
DIOXIN		
Total TCDD		
Total PeCDD		
Total HxCDD		
Total HpCDD		
Total TCDF		
Total PeCDF		
Total HxCDF		
Total HpCDF		

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
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Table - 8
Soil Sampling Analytical Results
Metals & Physical Chemistry Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED NON-RESIDENTIAL CLEANUP STANDARDS mg/kg	GH-S1-0.5'-2.5'		GH-S2-0.5'-2.5'		LAB-S1-2.0'-2.5'		LAB-S2-2.0'-2.5'		FP-S2-1'-3'	
SAMPLE RUN:											
SAMPLE DATE:		01 JUN 93		01 JUN 93		01 JUN 93		01 JUN 93		01 JUN 93	
DILUTION FACTOR:		1		1		1		1		1	
UNITS:		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
METALS:											
Arsenic	2	1.6	B	1.2	B	4.3		4.1		6.9	
Lead	600	5.1	*	4.0	*	18.5	S*	51.0		324	
Selenium	3100					0.99	B	0.92	B	1.6	
Thallium	2	0.66	U,W	0.67	U,W	0.79	U,W				
Aluminum		8500	*	8980	*	1600	*	2070	*	5380	*
Antimony	340	4.4	U,N	4.5	U,N	5.3	U,N	5.5	U,N	4.9	U,N
Barium	47000	28.2	B	36.6	B	102		67.6		181	
Beryllium	1	0.31	B	0.34	B					0.52	B
Cadmium	100										
Calcium		8690	*	7780	*	524	B*	920	B*	37100	*
Chromium		21.4	*	21.4	*	9.6	*	13.6	*	41.9	*
Cobalt		9.2	B	11.4		5.1	B	6.7	B	7.4	B
Copper	600	40.8	*	58.2	*	24.3	*	30.1	*	138	*
Iron		16400	*	19600	*	14100	*	14200	*	26800	*
Magnesium		6780	*	7390	*	474	B*	492	B*	2750	*
Manganese		297	*	352	*	78.4	*	143	*	1190	*
Nickel	2400	21.6		21.9		8.3	B	6.6	B	28.5	
Potassium		667	B	487	B	492	B	483	B	756	B
Silver	4100										
Sodium		464	B	463	B			627	B		
Vanadium	7100	30.2		36.7		7.3	B	8.9	B	15.0	
Zinc	1500	36.4	*	33.4	*	19.7	*	15.3	*	190	*
Cyanide, Total	21000	0.55	U*	0.56	U*	1.6	*	1.8	*	0.82	*
Mercury	270					7.0		5.5		1.4	
PHYSICAL CHEMISTRY:											
Percent Solids		90.9		89.0		75.5		72.7		81.8	
TOC (mg C/Kg)		9200		4600		35900		54000		46200	
pH		8.2		9.0		6.8		6.3		7.6	

NOTE:
B - Concentration is less than the contract required detection limit
W - Post-digestion spike for Furnace AA analysis is out of control limits
* - Duplicate analysis not within control limits
N - Spiked sample recovery not within control limits
S - Reported value determined by the method of standard additions

Table - 8 (con't)
Soil Sampling Analytical Results
Metals & Physical Chemistry Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED NON-RESIDENTIAL CLEANUP STANDARDS	TRUCK-S1-0.5'-2.5'		TRUCK-S2-0.5'-2.5'		TRUCK-S3-1.0'-3.0'		TRUCK-S4-0.5'-2.5'		TRUCK-S4-2.5'-4.5'	
SAMPLE RUN:											
SAMPLE DATE:		28 MAY 93		28 MAY 93		28 MAY 93		28 MAY 93		28 MAY 93	
DILUTION FACTOR:		1		1		1		1			
UNITS:	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
METALS:											
Arsenic	2	0.63	U,*	2.6	*	20.5	*	58.7	*	27.5	*
Lead	600	12.6	*	24.6	*	1330	*	599	*	345	*
Selenium	3100	0.42	U,W,N,*	0.42	U,W,N,*	2.1	N,*	2.6	N,*	1.8	N,*
Thallium	2	0.63	U,N	0.63	U,N	0.97	B,N	0.78	U,N	0.69	U,N
Aluminum		7270	*	4970	*	9390	*	9050	*	3510	*
Antimony	340	4.2	U,N	4.2	U,N	9.7	B,N	15.3	B,N	4.6	U,N
Barium	47000	10.5	B	26.7	B	374		304		357	
Beryllium	1					1.8		1.8		0.57	B
Cadmium	100					7.8		2.4		2.7	
Calcium		5340	*	12100	*	7780	*	27600	*	36500	*
Chromium		7.8		9.3		86.0		18.1		13.1	
Cobalt		6.8	B	4.7	B	21.7		7.6	B	5.8	B
Copper	600	41.4		43.5		800		253		76.5	
Iron		9810	*	10200	*	30800	*	18500	*	11500	*
Magnesium		4170	*	3830	*	1870	*	2420	*	6460	*
Manganese		126	N,*	488	N,*	521	N,*	6160	N,*	2610	N,*
Nickel	2400	20.5		13.8		206		20.5		10.7	
Potassium		248	B	550	B	789	B	554	B	317	B
Silver	4100					3.2					
Sodium		1040	B	415	B						
Vanadium	7100	53.0		42.4		27.2		25.5		18.3	
Zinc	1500	18.9	*	67.1	*	1010	*	1360	*	1640	*
Cyanide, Total	21000	0.53	U,N,*	0.53	U,N,*	9.9	N,*	0.65	U,N,*	1.3	N,*
Mercury	270	0.15	*	0.27	*	0.76	*	0.74	*	0.77	*
PHYSICAL CHEMISTRY:											
Percent Solids		94.8		95.0		82.9		77.3		86.4	
TOC (mg C/Kg)		29500		27600		20300		94500		111800	
pH		9.0		7.8		8.0		7.6		7.5	

NOTE:
B - Concentration is less than the contract required detection limit
W - Post-digestion spike for Furnace AA analysis is out of control limits
* - Duplicate analysis not within control limits
N - Spiked sample recovery not within control limits
S - Reported value determined by the method of standard additions

Table - 8 (con't)
Soil Sampling Analytical Results
Metals & Physical Chemistry Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED NON-RESIDENTIAL CLEANUP STANDARDS	TRUCK-S5-0.5'-2.5'		TRUCK-S5-2.5'-4.5'		TRUCK-S6-1.0'-3.0'		TRUCK-S7-1.0'-3.0'		TRUCK-S7-1.0'-3.0' DUPLICATE	
SAMPLE RUN:		28 MAY 93		28 MAY 93		28 MAY 93		28 MAY 93		28 MAY 93	
SAMPLE DATE:		1		1				1		1	
DILUTION FACTOR:											
UNITS:	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
METALS:											
Arsenic	2	42.8	*	52.9	S,*	438		1030		2470	
Lead	600	428	*	665	*	54.5		3490	*	5.4	
Selenium	3100	3.1	N,*	2.9	N,*	1.8		9.5	N,*	4.0	
Thallium	2			0.75	U,N	7	N	6.2	N	4010	
Aluminum		3750		5160	*	772	*	5310	*	10.0	
Antimony	340	4.9	U,N	5.0	U,N	4.9	U,N	8.7	B,N	687	
Barium	47000	121		222		37.9	B	160		163	
Beryllium	1	0.62	B	0.90	B			0.34	B	0.40	
Cadmium	100	0.76	B	0.83	B			0.81	B	0.74	
Calcium		7740	*	16300	*	2660	*	22900	*	12100	
Chromium		13.9		23.9		3.2		9.0		9.6	
Cobalt		13.0		8.1	B	4.9	B	11.9	B	14.0	
Copper	600	135		203		89.4		275		233	
Iron		18700	*	10200	*	12900	*	22800	*	29800	
Magnesium		1110	B,*	3750	*	484	B,*	4620	*	2480	
Manganese		358	N,*	369	N,*	41.3	N,*	233	N,*	2190	
Nickel	2400	43.2		72.8		7.9	B	16.6		182	
Potassium		205	B	388	B	296	B	860	B	12.1	
Silver	4100							1.1	B	1150	
Sodium										2.0	
Vanadium	7100	22.6		32.2		18.6		25.4		1000	
Zinc	1500	313	*	666	*	20.1	*	505	*	33.7	
Cyanide, Total	21000	1.2	N,*	0.84	N,*	1.7	N,*	1.4	N,*	176	
Mercury	270	0.87	*	1.1	*	0.59	*	6.8	*	0.71	
PHYSICAL CHEMISTRY:											
Percent Solids		82.3		80.2		81.2		80.6		80.6	
TOC (mg C/Kg)				160800		191000		24800			
pH		7.6		7.2		7.8		7.3		7.3	

NOTE:
B - Concentration is less than the contract required detection limit
W - Post-digestion spike for Furnace AA analysis is out of control limits
* - Duplicate analysis not within control limits
N - Spiked sample recovery not within control limits
S - Reported value determined by the method of standard additions

Table - 8 (con't)
Soil Sampling Analytical Results
Metals & Physical Chemistry Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	100-S1-0.5'-2.5'		100-S2-0.5'-2.5'		100-S3-0.67'-2.67'		100-S4-2.5'-4.5'		ABUST-S1-0.5'-2.5'	
SAMPLE RUN:	NON-RESIDENTIAL										
SAMPLE DATE:	CLEANUP	27 MAY 93		27 MAY 93		27 MAY 93		27 MAY 93		27 MAY 93	
DILUTION FACTOR:	STANDARDS	1		1		1		1		1	
UNITS:	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
METALS:											
Arsenic	2	14.1		1.4	B	12.7		1.8	B	11.7	S
Lead	600	973		112		652		63.1		1650	
Selenium	3100	1.3		0.46	U,W	10.5		0.51	UW	1.7	
Thallium	2	0.72	U,W			0.81	UW	0.77	UW		
Aluminum		6520		8850		9800		1800		4880	
Antimony	340					12.5	B				
Barium	47000	263		44.6	B	175		26.8	B	258	
Beryllium	1	0.65	B	1.0	B	8.7		0.27	B	0.31	B
Cadmium	100	2.4				257		24.5		1.2	B
Calcium		16400		7790		37700		5370		8520	
Chromium		31.5		38.9		1040		400		28.2	
Cobalt		6.5	B	12.2		125		18.1		10.6	B
Copper	600	330		258		3270		3340		1730	
Iron		20500		16900		46800		12900		18800	
Magnesium		2430		3440		2690		361	B	1210	B
Manganese		672		179		684		49.5		303	
Nickel	2400	98.6		286		836		107		59.1	
Potassium		791	B	1330		1120	B	276	B	483	B
Silver	4100					19.4		0.81	B	1.5	B
Sodium										720	B
Vanadium	7100	28.1		16.4		34.1		8.3	B	25.1	
Zinc	1500	1220		507		5090		665		485	
Cyanide, Total	21000	0.71		0.66		18.7				2.0	
Mercury	270	1.6		1.6		1.1		1.3		4.5	
PHYSICAL CHEMISTRY:											
Percent Solids		83.0		87.5		73.9		77.8		79.6	
TOC (mg C/Kg)		29300		20500		202000		30500		92900	
pH		8.9		9.0		8.1		8.8		8.3	

NOTE:
B - Concentration is less than the contract required detection limit
W - Post-digestion spike for Furnace AA analysis is out of control limits
* - Duplicate analysis not within control limits
N - Spiked sample recovery not within control limits
S - Reported value determined by the method of standard additions

Table - 8 (con't)
Soil Sampling Analytical Results
Metals & Physical Chemistry Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED NON-RESIDENTIAL CLEANUP STANDARDS	FP-S1-1.0'-3.0'		LISTER-S1-0.5'-2.5'		LISTER-S1-6.5'-8.5'		LISTER-S2-2.5'-4.5'	
SAMPLE RUN:									
SAMPLE DATE:		27 MAY 93		27 MAY 93		27 MAY 93		27 MAY 93	
DILUTION FACTOR:		1		1		1		1	
UNITS:	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg	
METALS:									
Arsenic	2	9.0		16.3		0.69	U,W	9.8	
Lead	600	157		252		4.2		234	
Selenium	3100	9.0		0.96	B			0.69	B
Thallium	2	0.80	U,W	0.68	U,W	0.69	U,W		
Aluminum		1360		10400		5860		10000	
Antimony	340								
Barium	47000	29.6	B	113		28.5	B	81.5	
Beryllium	1			0.85	B	0.31	B	0.59	B
Cadmium	100	12.6		0.89	B			2.4	
Calcium		1940		5910		868	B	8280	
Chromium		152		18.1		11.4		15.5	
Cobalt		17.6		8.8	B	5.9	B	11.6	B
Copper	600	439		100		19.1		114	
Iron		11500		21400		12200		24400	
Magnesium		246	B	3240		3550		5690	
Manganese		50.2		2360		304		1810	
Nickel	2400	1220		22.1		13.1		18.2	
Potassium		364	B	960	B	1200		723	B
Silver	4100	1.6	B						
Sodium									
Vanadium	7100	8.5	B	34.3		14.1		34.2	
Zinc	1500	187		553		57.7		908	
Cyanide, Total	21000	4.0							
Mercury	270	0.19		0.68				0.16	
PHYSICAL CHEMISTRY:									
Percent Solids		74.7		87.7		87.2		83.7	
TOC (mg C/Kg)		7600		121500		<1000		101400	
pH		9.0		9.2		9.2		9.0	

NOTE:
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W - Post-digestion spike for Furnace AA analysis is out of control limits
* - Duplicate analysis not within control limits
N - Spiked sample recovery not within control limits
S - Reported value determined by the method of standard additions

Table - 8 (con't)
Aqueous Sampling Analytical Results
Metals & Physical Chemistry Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NEW JERSEY	500-S-1	
SAMPLE RUN:	CLASS II-A		
SAMPLE DATE:	GROUNDWATER	27 MAY 93	
DILUTION FACTOR:	CRITERIA	1	
UNITS:	ug/L	ug/L	
METALS:			
Arsenic	8	19.9	S
Lead	10	71.0	
Selenium	50	12.5	S
Thallium	10	3.0	U,W
Aluminum	200	906000	
Antimony	20		
Barium	2000	3620	
Beryllium	20	111	
Cadmium	4	174	
Calcium		267000	
Chromium	100	1010	
Cobalt		392	B
Copper	1000	878	
Iron	300	1000000	
Magnesium		152000	
Manganese	50	10800	
Nickel	100	884	
Potassium		64100	
Silver		35.9	B
Sodium	50000	300000	
Vanadium		1730	
Zinc	5000	3430	
Cyanide, Total	200	694	
Mercury	2	2.9	

NOTE:
B - Concentration is less than the contract required detection limit
W - Post-digestion spike for Furnace AA analysis is out of control limits
* - Duplicate analysis not within control limits
N - Spiked sample recovery not within control limits
S - Reported value determined by the method of standard additions

Table - 8 (con't)
Soil Sampling Analytical Results
Metals & Physical Chemistry Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NJDEP PROPOSED	700-S1-0.5'-2.5'		700-S1-2.5'-4.5'		700-S2-0.5'-2.5'		700-S3-0.5'-2.5'		500-S2-0.5'-2.5'	
SAMPLE RUN:	NON-RESIDENTIAL										
SAMPLE DATE:	CLEANUP	26 MAY 93		26 MAY 93		26 MAY 93		26 MAY 93		26 MAY 93	
DILUTION FACTOR:	STANDARDS	1		1		1		1			
UNITS:	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
METALS:											
Arsenic	2	37.5		26.7		16.1		20.6		14.9	
Lead	600	138		43.7		241		326		76.1	
Selenium	3100	0.64	B	0.48	U,W	0.45	UW	0.53	B	1.3	
Thallium	2	0.67	UW	0.72	U,W	0.68	UW	0.86	B	0.71	U,W
Aluminum		7150		6880		9400		8050		2740	
Antimony	340										
Barium	47000	72.2		64.7		78.4		61.6		49.7	
Beryllium	1	0.80	B	0.79	B	0.31	B	0.41	B	0.56	B
Cadmium	100	1.5		1.2	B	1.4		1.5			
Calcium		38500		47800		5990		2280		7820	
Chromium		25.6		16.4		23.9		15.7		4.7	
Cobalt		7.4	B	4.2	B	11.1	B	21.9		3.4	B
Copper	600	76.3		56.9		94.8		228		90.6	
Iron		12400		8750		19900		14400		7200	
Magnesium		4560		4840		5530		1870		1360	
Manganese		1560		930		236		163		1800	
Nickel	2400	30.8		16.7		44.4		32.9		9.4	B
Potassium		427	B	475	B	393	B	315	B	237	B
Silver	4100					0.81	B				
Sodium						480	B				
Vanadium	7100	26.4		13.2		47.7		23.2		9.3	B
Zinc	1500	250		213		184		195		136	
Cyanide, Total	21000	1.4		2.3		0.61					
Mercury	270	0.48		0.32		1.2		0.25		0.60	
PHYSICAL CHEMISTRY:											
Percent Solids		89.0		83.1		88.5		89.5		84.9	
TOC (mg C/Kg)		91.61		82.95		90.58		89.42		84.26	
pH		12.7		11.9		8.8		9.0		9.6	

NOTE:
B - Concentration is less than the contract required detection limit
W - Post-digestion spike for Furnace AA analysis is out of control limits
* - Duplicate analysis not within control limits
N - Spiked sample recovery not within control limits
S - Reported value determined by the method of standard additions

Table - 9
Groundwater Sampling Analytical Results
Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NEW JERSEY	MW-1	MW-1	MW-1	MW-2
SAMPLE RUN:	CLASS II-A			DILUTION	
SAMPLE DATE:	GROUNDWATER	10 JUN 93	18 AUG 93	18 AUG 93	10 JUN 93
DILUTION FACTOR:	CRITERIA	4	1	2.5	1
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L
VOLATILE COMPOUNDS:					
Chloromethane	30				
Bromomethane	10				
Vinyl Chloride	5				
Chloroethane				6 J	
Methylene chloride	2				
Acetone	700	84	33	32	
Carbon disulfide				3 J	
1,1-Dichloroethene	2				
1,1-Dichloroethane	70				
1,2-Dichloroethene ^(total)	10				
Chloroform	6				
1,2-Dichloroethane	2	9.0 J			
2-Butanone	300			6 B,J	
1,1,1-Trichloroethane	30				
Carbon tetrachloride	2				
Bromodichloromethane	1				
1,2-Dichloropropane	1				
cis-1,3-Dichloropropene	0.2				
Trichloroethene	1				2 J
Dibromochloromethane	10				
1,1,2-Trichloroethane	3				
Benzene	1	640	390 E		
.rans-1,3-Dichloropropene	0.2				
Bromoform	4				
4-Methyl-2-Pentanone	400		2 J		
2-Hexanone					
1,1,2,2-Tetrachloroethane	2				
Tetrachloroethene	1				
Toluene	1000	86	30	21 J	
Chlorobenzene	4	250	300 E	280	2 J
Ethylbenzene	700		1 J		
Styrene	100				
Xylenes (total)	40	25 J	8 J	7 J	

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 9 (con't)
Groundwater Sampling Analytical Results
Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NEW JERSEY	MW-2	MW-2D	MW-3	MW-3
SAMPLE RUN:	CLASS II-A				
SAMPLE DATE:	GROUNDWATER	18 AUG 93	18 AUG 93	10 JUN 93	18 AUG 93
DILUTION FACTOR:	CRITERIA	1	1	1	1
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L
VOLATILE COMPOUNDS:					
Chloromethane	30				
Bromomethane	10				
Vinyl Chloride	5				
Chloroethane					
Methylene chloride	2				
Acetone	700	5 J	8 J		
Carbon disulfide		2 J	2 J		
1,1-Dichloroethene	2				
1,1-Dichloroethane	70				
1,2-Dichloroethene (total)	10				
Chloroform	6				
1,2-Dichloroethane	2				
2-Butanone	300		3 B,J		
1,1,1-Trichloroethane	30				
Carbon tetrachloride	2				
Bromodichloromethane	1				
1,2-Dichloropropane	1				
cis-1,3-Dichloropropene	0.2				
Trichloroethene	1	2 J	2 J		
Dibromochloromethane	10				
1,1,2-Trichloroethane	3				
Benzene	1			2.0 J	
trans-1,3-Dichloropropene	0.2				
Bromoform	4				
4-Methyl-2-Pentanone	400				
2-Hexanone					
1,1,2,2-Tetrachloroethane	2				
Tetrachloroethene	1				1 J
Toluene	1000				
Chlorobenzene	4	2 J	2 J	11	9 J
Ethylbenzene	700				
Styrene	100				
Xylenes (total)	40			2.0 J	

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 9 (con't)
Groundwater Sampling Analytical Results
Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NEW JERSEY	HDMW-6		HDMW-6 DILUTION		HDMW-9 DUPLICATE		HDMW-9 DILUTION	
SAMPLE RUN:	CLASS II-A								
SAMPLE DATE:	GROUNDWATER	07 JUL 93		07 JUL 93		07 JUL 93		07 JUL 93	
DILUTION FACTOR:	CRITERIA	1		5		5		10	
UNITS:	ug/L	ug/L		ug/L		ug/L		ug/L	
VOLATILE COMPOUNDS:									
Chloromethane	30								
Bromomethane	10								
Vinyl Chloride	5								
Chloroethane									
Methylene chloride	2								
Acetone	700	12							
Carbon disulfide									
1,1-Dichloroethene	2								
1,1-Dichloroethane	70								
1,2-Dichloroethene ^(cis/trans)	10	0.7	J						
Chloroform	6								
1,2-Dichloroethane	2	1	J						
2-Butanone	300								
1,1,1-Trichloroethane	30								
Carbon tetrachloride	2								
Bromodichloromethane	1								
1,2-Dichloropropane	1								
cis-1,3-Dichloropropene	0.2								
Trichloroethene	1								
Dibromochloromethane	10								
1,1,2-Trichloroethane	3								
Benzene	1	69		71		66		79	D,J
trans-1,3-Dichloropropene	0.2								
Bromoform	4								
4-Methyl-2-Pentanone	400								
2-Hexanone									
1,1,2,2-Tetrachloroethane	2								
Tetrachloroethene	1								
Toluene	1000	0.9	J						
Chlorobenzene	4	900		900		840		950	D
Ethylbenzene	700	19		17	J			17	D,J
Styrene	100								
Xylenes (total)	40	12							

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 9 (con't)
Groundwater Sampling Analytical Results
Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NEW JERSEY	HDMW-10	TRIP BLANK	HDMW-6		HDMW-6 DILUTION	
SAMPLE RUN:	CLASS II-A	FIELD BLANK					
SAMPLE DATE:	GROUNDWATER	07 JUL 93	07 JUL 93	18 AUG 93		18 AUG 93	
DILUTION FACTOR:	CRITERIA	1	1	1		4	
UNITS:	ug/L	ug/L	ug/L	ug/L		ug/L	
VOLATILE COMPOUNDS:							
Chloromethane	30						
Bromomethane	10						
Vinyl Chloride	5						
Chloroethane							
Methylene chloride	2						
Acetone	700			7	J		
Carbon disulfide							
1,1-Dichloroethene	2						
1,1-Dichloroethane	70						
1,2-Dichloroethene ^(cis/trans)	10						
Chloroform	6						
1,2-Dichloroethane	2			2	J		
2-Butanone	300						
1,1,1-Trichloroethane	30						
Carbon tetrachloride	2						
Bromodichloromethane	1						
1,2-Dichloropropane	1						
cis-1,3-Dichloropropene	0.2						
Trichloroethene	1						
Dibromochloromethane	10						
1,1,2-Trichloroethane	3						
Benzene	1			42		41	D
trans-1,3-Dichloropropene	0.2						
Bromoform	4						
4-Methyl-2-Pentanone	400						
2-Hexanone							
1,1,2,2-Tetrachloroethane	2						
Tetrachloroethene	1						
Toluene	1000						
Chlorobenzene	4			490	E	500	D
Ethylbenzene	700			2	J		
Styrene	100						
Xylenes (total)	40			2	J		

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 9 (con't)
Groundwater Sampling Analytical Results
Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NEW JERSEY	FIELD BLANK	TRIP BLANK	FIELD BLANK	TRIP BLANK
SAMPLE RUN:	CLASS II-A				
SAMPLE DATE:	GROUNDWATER	10 JUN 93	10 JUN 93	18 AUG 93	18 AUG 93
DILUTION FACTOR:	CRITERIA	1	1	1	1
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L
VOLATILE COMPOUNDS:					
Chloromethane	30				
Bromomethane	10				
Vinyl Chloride	5				
Chloroethane					
Methylene chloride	2				
Acetone	700				
Carbon disulfide					
1,1-Dichloroethene	2				
1,1-Dichloroethane	70				
1,2-Dichloroethene ^(cis/trans)	10				
Chloroform	6				
1,2-Dichloroethane	2				
2-Butanone	300				
1,1,1-Trichloroethane	30				
Carbon tetrachloride	2				
Bromodichloromethane	1				
1,2-Dichloropropane	1				
cis-1,3-Dichloropropene	0.2				
Trichloroethene	1				
Dibromochloromethane	10				
1,1,2-Trichloroethane	3				
Benzene	1				
trans-1,3-Dichloropropene	0.2				
Bromoform	4				
4-Methyl-2-Pentanone	400				
2-Hexanone					
1,1,2,2-Tetrachloroethane	2				
Tetrachloroethene	1				
Toluene	1000				
Chlorobenzene	4				
Ethylbenzene	700				
Styrene	100				
Xylenes (total)	40				

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 9
Groundwater Sampling Analytical Results
Semi-Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NEW JERSEY	MW-1		MW-1		MW-1	
SAMPLE RUN:	CLASS II-A					REPLICATE	
SAMPLE DATE:	GROUNDWATER	10 JUN 93		18 AUG 93		18 AUG 93	
DILUTION FACTOR:	CRITERIA	2		4		5	
UNITS:	ug/L	ug/L		ug/L		ug/L	
SEMI-VOLATILE COMPOUNDS:							
Acenaphthene	400						
Acenaphthylene							
Anthracene	2000						
9H-Carbazole							
Benzo(a)anthracene							
Benzo(a)pyrene							
Benzo(b)fluoranthene							
Benzo(g,h,i)perylene							
Benzo(k)fluoranthene							
4-Bromophenyl ^phenyl ether							
Butyl benzyl phthalate	100						
4-Chloroaniline							
bis(2-Chloroethoxy)-^methane							
bis(2-Chloroethyl) ether	10						
2,2'-oxybis(1-Chloropropane)							
4-Chloro-3-methylphenol							
2-Chloronaphthalene							
2-Chlorophenol	40			10	J		
4-Chlorophenyl ^phenyl ether							
Chrysene							
Di-n-butyl phthalate	900						
Dibenz(a,h)anthracene							
Dibenzofuran							
1,2-Dichlorobenzene	600	9.0	J				
1,3-Dichlorobenzene	600	3.0	J				
1,4-Dichlorobenzene	75	20		15	J	10	J
3,3'-Dichlorobenzidine	60						
2,4-Dichlorophenol	20						
Diethyl phthalate	5000						
2,4-Dimethylphenol	100	74		62		7	J
Dimethyl phthalate		83		57			
4,6-Dinitro-^2-methylphenol							
2,4-Dinitrophenol	40						
2,4-Dinitrotoluene	10						
2,6-Dinitrotoluene							
Di-n-octyl phthalate	100						
bis(2-Ethylhexyl) ^phthalate	30	10	BJ	8	J	8	B,J
Fluoranthene	300						
Fluorene	300						
Hexachlorobenzene	10						
Hexachlorobutadiene	1						
Hexachlorocyclo-^pentadiene	50						
Hexachloroethane	10						
Indeno(1,2,3-cd)pyrene							
Isophorone	100	5.0	J				
2-Methylnaphthalene							
2-Methylphenol		14	J				
4-Methylphenol							
Naphthalene							
2-Nitroaniline							
3-Nitroaniline							
4-Nitroaniline							
Nitrobenzene	10						
2-Nitrophenol							
4-Nitrophenol							
N-Nitrosodiphenylamine	20						
N-Nitroso-di-^n-propylamine	20						
Pentachlorophenol	1						
Phenanthrene							
Phenol	4000			80		84	
Pyrene	200						
1,2,4-Trichlorobenzene	9	69		8	J		
2,4,5-Trichlorophenol	700						
2,4,6-Trichlorophenol	20						

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 9 (con't)
Groundwater Sampling Analytical Results
Semi-Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NEW JERSEY	MW-2	MW-2	MW-2D
SAMPLE RUN:	CLASS II-A			
SAMPLE DATE:	GROUNDWATER	10 JUN 93	18 AUG 93	18 AUG 93
DILUTION FACTOR:	CRITERIA	1	1	1
UNITS:	ug/L	ug/L	ug/L	ug/L
SEMI-VOLATILE COMPOUNDS:				
Acenaphthene	400			
Acenaphthylene				
Anthracene	2000			
9H-Carbazole				
Benzo(a)anthracene				
Benzo(a)pyrene				
Benzo(b)fluoranthene				
Benzo(g,h,i)perylene				
Benzo(k)fluoranthene				
4-Bromophenyl ^phenyl ether				
Butyl benzyl phthalate	100		2 J	
4-Chloroaniline				
bis(2-Chloroethoxy)-^methane				
bis(2-Chloroethyl) ether	10			
2,2'-oxybis(1-Chloropropane)				
4-Chloro-3-methylphenol				
2-Chloronaphthalene				
2-Chlorophenol	40			
4-Chlorophenyl ^phenyl ether				
Chrysene				
Di-n-butyl phthalate	900			
Dibenz(a,h)anthracene				
Dibenzofuran				
1,2-Dichlorobenzene	600			
1,3-Dichlorobenzene	600			
1,4-Dichlorobenzene	75			
3,3'-Dichlorobenzidine	60			
2,4-Dichlorophenol	20			
Diethyl phthalate	5000			
2,4-Dimethylphenol	100			
Dimethyl phthalate				
4,6-Dinitro-^2-methylphenol				
2,4-Dinitrophenol	40			
2,4-Dinitrotoluene	10			
2,6-Dinitrotoluene				
Di-n-octyl phthalate	100			
bis(2-Ethylhexyl) ^phthalate	30	3.0 BJ	6 J	5 J
Fluoranthene	300			
Fluorene	300			
Hexachlorobenzene	10			
Hexachlorobutadiene	1			
Hexachlorocyclo-^pentadiene	50			
Hexachloroethane	10			
Indeno(1,2,3-cd)pyrene				
Isophorone	100			
2-Methylnaphthalene				
2-Methylphenol				
4-Methylphenol				
Naphthalene				
2-Nitroaniline				
3-Nitroaniline				
4-Nitroaniline				
Nitrobenzene	10			
2-Nitrophenol				
4-Nitrophenol				
N-Nitrosodiphenylamine	20			
N-Nitroso-di-^n-propylamine	20			
Pentachlorophenol	1			
Phenanthrene				
Phenol	4000			
Pyrene	200			
1,2,4-Trichlorobenzene	9			
2,4,5-Trichlorophenol	700			
2,4,6-Trichlorophenol	20			

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 9 (con't)
Groundwater Sampling Analytical Results
Semi-Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NEW JERSEY	MW-3	MW-3	HDMW-6	HDMW-6 DILUTION
SAMPLE RUN:	CLASS II-A				
SAMPLE DATE:	GROUNDWATER	10 JUN 93	18 AUG 93	07 JUL 93	07 JUL 93
DILUTION FACTOR:	CRITERIA	1	1	1	100
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L
SEMI-VOLATILE COMPOUNDS:					
Acenaphthene	400			1 J	
Acenaphthylene					
Anthracene	2000				
9H-Carbazole					
Benzo(a)anthracene					
Benzo(a)pyrene					
Benzo(b)fluoranthene					
Benzo(g,h,i)perylene					
Benzo(k)fluoranthene					
4-Bromophenyl ˆphenyl ether					
Butyl benzyl phthalate	100		1 J		
4-Chloroaniline				950 E	3500 D
bis(2-Chloroethoxy)-ˆmethane					
bis(2-Chloroethyl) ether	10				
2,2'-oxybis(1-Chloropropane)					
4-Chloro-3-methylphenol					
2-Chloronaphthalene					
2-Chlorophenol	40				
4-Chlorophenyl ˆphenyl ether					
Chrysene					
Di-n-butyl phthalate	900			0.8 J,B	
Dibenz(a,h)anthracene					
Dibenzofuran					
1,2-Dichlorobenzene	600	1.0 J	1 J	5 J	
1,3-Dichlorobenzene	600	13	7 J	34	
1,4-Dichlorobenzene	75	25	17	82 E	
3,3'-Dichlorobenzidine	60				
2,4-Dichlorophenol	20				
Diethyl phthalate	5000				
2,4-Dimethylphenol	100				
Dimethyl phthalate					
4,6-Dinitro-ˆ2-methylphenol					
2,4-Dinitrophenol	40				
2,4-Dinitrotoluene	10				
2,6-Dinitrotoluene					
Di-n-octyl phthalate	100				
bis(2-Ethylhexyl) ˆphthalate	30	9.0 BJ	4 J	0.6 J	
Fluoranthene	300				
Fluorene	300				
Hexachlorobenzene	10				
Hexachlorobutadiene	1				
Hexachlorocyclo-ˆpentadiene	50				
Hexachloroethane	10				
Indeno(1,2,3-cd)pyrene					
Isophorone	100				
2-Methylnaphthalene				1 J	
2-Methylphenol					
4-Methylphenol		5.0 J			
Naphthalene				1 J	
2-Nitroaniline					
3-Nitroaniline					
4-Nitroaniline					
Nitrobenzene	10				
2-Nitrophenol					
4-Nitrophenol					
N-Nitrosodiphenylamine	20				
N-Nitroso-di-ˆn-propylamine	20				
Pentachloropbenol	1				
Phenanthrene					
Phenol	4000				
Pyrene	200				
1,2,4-Trichlorobenzene	9	8.0 J	5 J		
2,4,5-Trichlorophenol	700				
2,4,6-Trichlorophenol	20				

NOTE:
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B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
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Table - 9 (con't)
Groundwater Sampling Analytical Results
Semi-Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NEW JERSEY	HDMW-9	HDMW-9	HDMW-10
SAMPLE RUN:	CLASS II-A	DUPLICATE	DILUTION	FIELD BLANK
SAMPLE DATE:	GROUNDWATER	07 JUL 93	07 JUL 93	07 JUL 93
DILUTION FACTOR:	CRITERIA	1	100	1
UNITS:	ug/L	ug/L	ug/L	ug/L
SEMI-VOLATILE COMPOUNDS				
Acenaphthene	400	0.6 J		
Acenaphthylene				
Anthracene	2000			
9H-Carbazole				
Benzo(a)anthracene				
Benzo(a)pyrene				
Benzo(b)fluoranthene				
Benzo(g,h,i)perylene				
Benzo(k)fluoranthene				
4-Bromophenyl ^phenyl ether				
Butyl benzyl phthalate	100			
4-Chloroaniline		1600 E	7900 D	
bis(2-Chloroethoxy)-^methane				
bis(2-Chloroethyl) ether	10			
2,2'-oxybis(1-Chloropropane)				
4-Chloro-3-methylphenol				
2-Chloronaphthalene				
2-Chlorophenol	40			
4-Chlorophenyl ^phenyl ether				
Chrysene				
Di-n-butyl phthalate	900	0.6 J,B		
Dibenz(a,h)anthracene				
Dibenzofuran				
1,2-Dichlorobenzene	600	5 J		
1,3-Dichlorobenzene	600	32		
1,4-Dichlorobenzene	75	83 E		
3,3'-Dichlorobenzidine	60			
2,4-Dichlorophenol	20			
Diethyl phthalate	5000			
2,4-Dimethylphenol	100			
Dimethyl phthalate				
4,6-Dinitro-^2-methylphenol				
2,4-Dinitrophenol	40			
2,4-Dinitrotoluene	10			
2,6-Dinitrotoluene				
Di-n-octyl phthalate	100			
bis(2-Ethylhexyl) ^phthalate	30	0.8 J		0.7 J
Fluoranthene	300			
Fluorene	300			
Hexachlorobenzene	10			
Hexachlorobutadiene	1			
Hexachlorocyclo-^pentadiene	50			
Hexachloroethane	10			
Indeno(1,2,3-cd)pyrene				
Isophorone	100			
2-Methylnaphthalene		1 J		
2-Methylphenol				
4-Methylphenol				
Naphthalene		0.9 J		
2-Nitroaniline				
3-Nitroaniline				
4-Nitroaniline				
Nitrobenzene	10			
2-Nitrophenol				
4-Nitrophenol				
N-Nitrosodiphenylamine	20			
N-Nitroso-di-^n-propylamine	20			
Pentachlorophenol	1			
Phenanthrene				
Phenol	4000			
Pyrene	200			
1,2,4-Trichlorobenzene	9			
2,4,5-Trichlorophenol	700			
2,4,6-Trichlorophenol	20			

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
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Table - 9 (con't)
Groundwater Sampling Analytical Results
Semi-Volatile Organic Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NEW JERSEY	HDMW-6		HDMW-6		FIELD BLANK		FIELD BLANK	
SAMPLE RUN:	CLASS II-A			DILUTION					
SAMPLE DATE:	GROUNDWATER	18 AUG 93		18 AUG 93		10 JUN 93		18 AUG 93	
DILUTION FACTOR:	CRITERIA	1		100		1		1	
UNITS:	ug/L	ug/L		ug/L		ug/L		ug/L	
SEMI-VOLATILE COMPOUNDS:									
Acenaphthene	400	1	J						
Acenaphthylene									
Anthracene	2000								
9H-Carbazole									
Benzo(a)anthracene									
Benzo(a)pyrene									
Benzo(b)fluoranthene									
Benzo(g,h,i)perylene									
Benzo(k)fluoranthene									
4-Bromophenyl ^phenyl ether									
Butyl benzyl phthalate	100								
4-Chloroaniline		2000	E	7200	D				
bis(2-Chloroethoxy)-^methane									
bis(2-Chloroethyl) ether	10								
2,2'-oxybis(1-Chloropropane)									
4-Chloro-3-methylphenol									
2-Chloronaphthalene									
2-Chlorophenol	40								
4-Chlorophenyl ^phenyl ether									
Chrysene									
Di-n-butyl phthalate	900								
Dibenz(a,h)anthracene									
Dibenzofuran									
1,2-Dichlorobenzene	600	5	J						
1,3-Dichlorobenzene	600	24							
1,4-Dichlorobenzene	75	71							
3,3'-Dichlorobenzidine	60								
2,4-Dichlorophenol	20								
Diethyl phthalate	5000								
2,4-Dimethylphenol	100								
Dimethyl phthalate									
4,6-Dinitro-^2-methylphenol									
2,4-Dinitrophenol	40								
2,4-Dinitrotoluene	10								
2,6-Dinitrotoluene									
Di-n-octyl phthalate	100								
bis(2-Ethylhexyl) ^phthalate	30	7	J			1.0	BJ	2	J
Fluoranthene	300								
Fluorene	300								
Hexachlorobenzene	10								
Hexachlorobutadiene	1								
Hexachlorocyclo-^pentadiene	50								
Hexachloroethane	10								
Indeno(1,2,3-cd)pyrene									
Isophorone	100								
2-Methylnaphthalene		2	J						
2-Methylphenol									
4-Methylphenol									
Naphthalene									
2-Nitroaniline									
3-Nitroaniline									
4-Nitroaniline									
Nitrobenzene	10								
2-Nitrophenol									
4-Nitrophenol									
N-Nitrosodiphenylamine	20								
N-Nitroso-di-^n-propylamine	20								
Pentachlorophenol	1								
Phenanthrene									
Phenol	4000								
Pyrene	200								
1,2,4-Trichlorobenzene	9								
2,4,5-Trichlorophenol	700								
2,4,6-Trichlorophenol	20								

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 9
Groundwater Sampling Analytical Results
Pesticide Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NEW JERSEY	MW-1		MW-1		MW-1		MW-1		MW-1	
SAMPLE RUN:	CLASS II-A			REPLICATE		DILUTION		REPLICATE DILUTION			
SAMPLE DATE:	GROUNDWATER	10 JUN 93		10 JUN 93		10 JUN 93		10 JUN 93		18 AUG 93	
DILUTION FACTOR:	CRITERIA	80		80		800		800		1	
UNITS:	ug/L	ug/L		ug/L		ug/L		ug/L		ug/L	
PESTICIDES:											
alpha-BHC	0.02	380	B,P,C	320	B,P,C	500	B,C,D	450	B,C,D	4.1	B
beta-BHC	0.2	42	B,C	37	C	53	B,C,D	50	C,D	1.2	
delta-BHC		0.88	J,P	0.57	J,P			0.66	D,J,P	0.11	P
gamma-BHC (Lindane)	0.2	1.0	B,J,P	0.86	J	0.88	B,D,J	0.83	D,J,P		
Heptachlor	0.4	0.66	J,P	0.90	J,P			2.0	D,J,P	0.31	P
Aldrin	0.04									0.022	J,P
Heptachlor epoxide	0.2	3.0	J,P								
Endosulfan I	0.4									0.12	
Dieldrin	0.03	0.099	J							0.075	J,P
4,4'-DDE	0.1										
Endrin	2										
Endosulfan II	0.4										
4,4'-DDD	0.1	0.25	B,J,P	0.26	B,J,P					0.18	
Endosulfan sulfate	0.4										
4,4'-DDT	0.1										
Methoxychlor	40	0.030	J,P	0.70	J,P					0.12	B,J,P
Endrin ketone											
Endrin aldehyde											
alpha-Chlordane										0.013	B,J,P
gamma-Chlordane											
Toxaphene	3										
Aroclor 1016	0.5										
Aroclor 1221	0.5										
Aroclor 1232	0.5										
Aroclor 1242	0.5										
Aroclor 1248	0.5										
Aroclor 1254	0.5										
Aroclor 1260	0.5										

NOTE:
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B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 9 (con't)
Groundwater Sampling Analytical Results
Pesticide Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NEW JERSEY	MW-1		MW-2		MW-2		MW-2		MW-2	
SAMPLE RUN:	CLASS II-A	DILUTION				REPLICATE		DILUTION		REPLICATE DILUTION	
SAMPLE DATE:	GROUNDWATER	18 AUG 93		10 JUN 93		10 JUN 93		10 JUN 93		10 JUN 93	
DILUTION FACTOR:	CRITERIA	10		2		2		20		20	
UNITS:	ug/L	ug/L		ug/L		ug/L		ug/L		ug/L	
PESTICIDES:											
alpha-BHC	0.02	5.5	B,D	2.2	B	2.4	B	2.0	B,D	2.5	B,D
beta-BHC	0.2	1.7	D	6.0	B	6.6		7.4	B,D	8.8	D
delta-BHC		0.14	D,J,P	0.032	J	0.035	J	0.022	D,J,P	0.024	D,J
gamma-BHC (Lindane)	0.2										
Heptachlor	0.4	0.44	D,J,P			0.0088	J,P			0.044	D,J,P
Aldrin	0.04										
Heptachlor epoxide	0.2										
Endosulfan I	0.4	0.11	D,J,P								
Dieldrin	0.03	0.028	D,J,P								
4,4'-DDE	0.1										
Endrin	2			0.0028	J,P	0.0032	J,P			0.0021	D,J,P
Endosulfan II	0.4	0.012	D,J,P	0.038	J	0.040	J,P			0.035	D,J,P
4,4'-DDD	0.1	0.13	D,J	0.034	B,J,P	0.0098	B,J,P				
Endosulfan sulfate	0.4										
4,4'-DDT	0.1			0.15	B,J,P	0.019	B,J,P	0.083	B,D,J,P		
Methoxychlor	40	0.015	B,D,J,P			0.036	JP				
Endrin ketone											
Endrin aldehyde											
alpha-Chlordane		0.0060	B,D,J,P								
gamma-Chlordane											
Toxaphene	3										
Aroclor 1016	0.5										
Aroclor 1221	0.5										
Aroclor 1232	0.5										
Aroclor 1242	0.5										
Aroclor 1248	0.5										
Aroclor 1254	0.5										
Aroclor 1260	0.5										

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the calibration range of the instrumentaiton
D - Analysis at a secondary dilution factor
P - Indicates a greater than 25 percent difference for detected concentration between the two GC columns
C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 9 (con't)
Groundwater Sampling Analytical Results
Pesticide Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NEW JERSEY	MW-2		MW-2		MW-2D		MW-2D		MW-3	
SAMPLE RUN:	CLASS II-A			DILUTION				DILUTION			
SAMPLE DATE:	GROUNDWATER	18 AUG 93		18 AUG 93		18 AUG 93		18 AUG 93		10 JUN 93	
DILUTION FACTOR:	CRITERIA	1		10		2		20		1	
UNITS:	ug/L	ug/L		ug/L		ug/L		ug/L		ug/L	
PESTICIDES:											
alpha-BHC	0.02	0.23	B	0.27	B,D,J	0.28	B	0.30	B,D,J	0.47	B
beta-BHC	0.2	4.9		7.5	D	6.5		9.2	D	2.6	B
delta-BHC		0.022	J	0.017	D,J	0.026	J,P	0.022	D,J,P	0.14	
gamma-BHC (Lindane)	0.2										
Heptachlor	0.4	0.0033	J,P			0.0042	J,P				
Aldrin	0.04	0.0031	J,P							0.0025	J,P
Heptachlor epoxide	0.2										
Endosulfan I	0.4										
Dieldrin	0.03					0.0012	J,P				
4,4'-DDE	0.1									0.090	B,J
Endrin	2	0.016	J,P	0.033	D,J	0.020	J,P			0.0073	J
Endosulfan II	0.4	0.044	J,P			0.055	J,P	0.050	D,J,P	0.0096	J,P
4,4'-DDD	0.1									0.30	B,P
Endosulfan sulfate	0.4										
4,4'-DDT	0.1									0.69	B
Methoxychlor	40	0.064	B,J,P	0.032	B,D,J	0.020	B,J,P				
Endrin ketone											
Endrin aldehyde											
alpha-Chlordane										0.0026	B,J,P
gamma-Chlordane										0.0027	J,P
Toxaphene	3										
Aroclor 1016	0.5										
Aroclor 1221	0.5										
Aroclor 1232	0.5										
Aroclor 1242	0.5										
Aroclor 1248	0.5										
Aroclor 1254	0.5										
Aroclor 1260	0.5										

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
E - Estimate Value - Analyte concentration exceeds the cali
D - Analysis at a secondary dilution factor
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Table - 9 (con't)
Groundwater Sampling Analytical Results
Pesticide Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NEW JERSEY	MW-3		MW-3		MW-3		MW-3		MW-3	
SAMPLE RUN:	CLASS II-A	REPLICATE		DILUTION		REPLICATE DILUTION				DILUTION	
SAMPLE DATE:	GROUNDWATER	10 JUN 93		10 JUN 93		10 JUN 93		18 AUG 93		18 AUG 93	
DILUTION FACTOR:	CRITERIA	2		10		20		2		20	
UNITS:	ug/L	ug/L		ug/L		ug/L		ug/L		ug/L	
PESTICIDES:											
alpha-BHC	0.02	1.1	B	0.51	B,D	1.2	B,D	0.60	B	0.64	B,D,J
beta-BHC	0.2	7.0		3.5	B,D	9.6	D	11	C	16	C,D
delta-BHC		0.36	P	0.16	D,J	0.40	D,J,P	0.28		0.28	D,J
gamma-BHC (Lindane)	0.2	0.10	P,U								
Heptachlor	0.4										
Aldrin	0.04	0.020	J,P			0.0051	D,J,P	0.0050	J,P		
Heptachlor epoxide	0.2										
Endosulfan I	0.4										
Dieldrin	0.03										
4,4'-DDE	0.1	0.50	B	0.10	B,D,J	0.54	B,D,J	0.028	B,J	0.011	B,D,J,P
Endrin	2	0.026	J,P			0.026	D,J,P				
Endosulfan II	0.4	0.024	J,P					0.0030	J,P		
4,4'-DDD	0.1	1.4	B,P	0.34	B,D,J,P	2.0	B,D	0.11	J	0.16	D,J
Endosulfan sulfate	0.4										
4,4'-DDT	0.1	4.4	B	0.55	B,D,J	4.7	B,D	0.084	B,J	0.013	B,D,J,P
Methoxychlor	40							0.031	B,J,P		
Endrin ketone		0.16	J,P			0.019	D,J,P				
Endrin aldehyde											
alpha-Chlordane											
gamma-Chlordane											
Toxaphene	3										
Aroclor 1016	0.5										
Aroclor 1221	0.5										
Aroclor 1232	0.5										
Aroclor 1242	0.5										
Aroclor 1248	0.5										
Aroclor 1254	0.5										
Aroclor 1260	0.5										

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
B - Analyte was also detected in blank samples
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C - Compound identification confirmed by GC/MS
Y - GC/MS confirmation is indeterminate

Table - 9 (con't)
Groundwater Sampling Analytical Results
Pesticide Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NEW JERSEY	HDMW-6	HDMW-9	HDMW-10	HDMW-6	
SAMPLE RUN:	CLASS II-A		DUPLICATE	FIELD BLANK		
SAMPLE DATE:	GROUNDWATER	07 JUL 93	07 JUL 93	07 JUL 93	18 AUG 93	
DILUTION FACTOR:	CRITERIA	1	1	1	1	
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L	
PESTICIDES:						
alpha-BHC	0.02				0.029	B,J
beta-BHC	0.2				0.044	J,P
delta-BHC					0.49	P
gamma-BHC (Lindane)	0.2					
Heptachlor	0.4				0.030	J,P
Aldrin	0.04				0.014	J,P
Heptachlor epoxide	0.2					
Endosulfan I	0.4				0.033	J,P
Dieldrin	0.03					
4,4'-DDE	0.1					
Endrin	2				0.0037	J,P
Endosulfan II	0.4				0.037	J,P
4,4'-DDD	0.1				0.067	J,P
Endosulfan sulfate	0.4				0.0013	J,P
4,4'-DDT	0.1					
Methoxychlor	40				0.030	B,J,P
Endrin ketone						
Endrin aldehyde						
alpha-Chlordane						
gamma-Chlordane						
Toxaphene	3					
Aroclor 1016	0.5					
Aroclor 1221	0.5					
Aroclor 1232	0.5					
Aroclor 1242	0.5					
Aroclor 1248	0.5					
Aroclor 1254	0.5					
Aroclor 1260	0.5					

NOTE:
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Table - 9 (con't)
Groundwater Sampling Analytical Results
Pesticide Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NEW JERSEY	FIELD BLANK	FIELD BLANK	FIELD BLANK
SAMPLE RUN:	CLASS II-A		REPLICATE	
SAMPLE DATE:	GROUNDWATER	10 JUN 93	10 JUN 93	18 AUG 93
DILUTION FACTOR:	CRITERIA	1	1	1
UNITS:	ug/L	ug/L	ug/L	ug/L
PESTICIDES:				
alpha-BHC	0.02	0.063 B		
beta-BHC	0.2	0.014 B,J		
delta-BHC				
gamma-BHC (Lindane)	0.2	0.0016 B,J,P		0.00030 B,J,P
Heptachlor	0.4		0.0042 J,P	
Aldrin	0.04			
Heptachlor epoxide	0.2			
Endosulfan I	0.4			
Dieldrin	0.03			
4,4'-DDE	0.1			
Endrin	2			
Endosulfan II	0.4		0.0010 J,P	
4,4'-DDD	0.1	0.025 B,J,P	0.0035 B,J,P	
Endosulfan sulfate	0.4		0.10 P,U	
4,4'-DDT	0.1	0.19 B,P	0.0053 B,J,P	
Methoxychlor	40		0.018 J	
Endrin ketone				
Endrin aldehyde				
alpha-Chlordane				
gamma-Chlordane				0.00036 J,P
Toxaphene	3			
Aroclor 1016	0.5			
Aroclor 1221	0.5			
Aroclor 1232	0.5			
Aroclor 1242	0.5			
Aroclor 1248	0.5			
Aroclor 1254	0.5			
Aroclor 1260	0.5			

NOTE:
U - Not Detected
J - Estimated Value - Compound meets identification criteria, but is less than the sample quantitation limit
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C - Compound identification confirmed by GC/MS
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Table - 9
Groundwater Sampling Analytical Results
Metals & Physical Chemistry Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NEW JERSEY	MW-1		MW-1		MW-2		MW-2		MW-2D	
SAMPLE RUN:	CLASS II-A										
SAMPLE DATE:	GROUNDWATER	10 JUN 93		18 AUG 93		10 JUN 93		18 AUG 93		18 AUG 93	
DILUTION FACTOR:	CRITERIA	1		1		1		1		1	
UNITS:	ug/L	ug/L		ug/L		ug/L		ug/L		ug/L	
METALS:											
Arsenic	8	6.9	B	15.8		3.0	U,W				
Lead	10	7.0	+	25.0		6.2					
Selenium	50			2.0	U,W,N,*			12.6	N,*	2.0	U,W,N,*
Thallium	10	15.0	U,W	2.0	U,N			2.0	U,N	2.0	U,N
Aluminum	200	1110		3500		2030		428		395	
Antimony	20										
Barium	2000	30.9	B	86.1	B	101	B	102	B	106	B
Beryllium	20										
Cadmium	4										
Calcium		22500		36100		18000		14700		14300	
Chromium	100	32.6		54.4							
Cobalt				6.9	B			4.6	B	4.3	B
Copper	1000	10.8	B	30.4		8.2	B				
Iron	300	1580		13900		17200		8730		8310	
Magnesium		6550		45300		5940		5170		5070	
Manganese	50	315		670		2990		2350		2210	
Nickel	100	83.5		108							
Potassium		49900		73000		2580	B	4320	B	4170	B
Silver				19.2							
Sodium	50000	415000		524000		21200		47500		46700	
Vanadium		21.4	B	38.7	B						
Zinc	5000	19.8	B	99.9		40.3		22.9		59.9	
Cyanide, Total	200					372		275		262	
Mercury	2	0.18	B	0.24				0.13	B	0.06	B

NOTE:
B - Concentration is less than the contract required detection limit
W - Post-digestion spike for Furnace AA analysis is out of control limits
* - Duplicate analysis not within control limits
N - Spiked sample recovery not within control limits
S - Reported value determined by the method of standard additions

Table - 9 (con't)
Groundwater Sampling Analytical Results
Metals & Physical Chemistry Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NEW JERSEY CLASS II-A GROUNDWATER CRITERIA	MW-3		MW-3		HDMW-6		HDMW-9 DUPLICATE		HDMW-10 FIELD BLANK	
SAMPLE RUN:											
SAMPLE DATE:		10 JUN 93		18 AUG 93		07 JUL 93		07 JUL 93		07 JUL 93	
DILUTION FACTOR:		1		1							
UNITS:	ug/L	ug/L		ug/L		ug/L		ug/L		ug/L	
METALS:											
Arsenic	8	305		225		41.4		41.6			
Lead	10	3020		98.5	S	0.80	B,W,N	0.50	U,N	0.60	B,N
Selenium	50			2.0	U,W,N,*	5.5	B,W,N	5.5	U,W,N	1.1	U,N
Thallium	10	3.0		2.0	U,N	1.6	U,W	0.80	U,W	0.80	U,W
Aluminum	200	4770		223							
Antimony	20					3.0	U,N	6.8	B,N	3.5	B,N
Barium	2000	317		148	B	106	B	96.8	B		
Beryllium	20										
Cadmium	4										
Calcium		39900		75600		61300		58200			
Chromium	100	12.4									
Cobalt		6.6	B								
Copper	1000	310		11.6	B	10.6	B	8.3	B	11.2	B
Iron	300	26200		10600		2610		2710		22.7	B
Magnesium		5170		7190		13600		13800			
Manganese	50	528		333		1510		1480			
Nickel	100	13.4	B			15.4	B	10.6	B		
Potassium		4390	B	6720		13600		13100			
Silver											
Sodium	50000	17600		26000		613000		533000		2200	B
Vanadium		15.6	B								
Zinc	5000	555		60.3		60.5		32.5		41.2	
Cyanide, Total	200	71		20.0		11.5					
Mercury	2	10.8		0.30							

NOTE:
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S - Reported value determined by the method of standard additions

Table - 9 (con't)
Groundwater Sampling Analytical Results
Metals & Physical Chemistry Data
Remedial Investigation
CWM of New Jersey, Inc.
Newark Facility

SAMPLE NUMBER:	NEW JERSEY CLASS II-A GROUNDWATER CRITERIA	HDMW-6		FIELD BLANK		FIELD BLANK	
SAMPLE RUN:							
SAMPLE DATE:		18 AUG 93		10 JUN 93		18 AUG 93	
DILUTION FACTOR:		1		1		1	
UNITS:	ug/L	ug/L		ug/L		ug/L	
METALS:							
Arsenic	8	36.9					
Lead	10	4.7					
Selenium	50	2.0	U,N,*			2.0	U,N,*
Thallium	10	2.0	U,N	3.0	U,W	2.0	U,N
Aluminum	200	284				55.3	B
Antimony	20						
Barium	2000	58.8	B				
Beryllium	20						
Cadmium	4						
Calcium		51600				36.0	B
Chromium	100						
Cobalt							
Copper	1000	3.7	B				
Iron	300	5980				14.4	B
Magnesium		9690					
Manganese	50	1290					
Nickel	100	10.1	B				
Potassium		11300					
Silver							
Sodium	50000	379000					
Vanadium		11.6	B				
Zinc	5000	98.8		4.4	B	5.4	B
Cyanide, Total	200						
Mercury	2	0.06	B			0.06	B

NOTE:
B - Concentration is less than the contract required detection limit
W - Post-digestion spike for Furnace AA analysis is out of control limits
* - Duplicate analysis not within control limits
N - Spiked sample recovery not within control limits
S - Reported value determined by the method of standard additions

TABLE 10
SOIL SAMPLE CONCENTRATION SUMMARY
REMEDIAL INVESTIGATION
CWM OF NEW JERSEY, INC.
(Mg/Kg)

Sample	Total VOC	Total SVOC	Total Pesticides	Metals	
				As	Pb
100 S1	1.2	49.7	10,358.1	14.1	973
100 S2	0.3	17.6	1.8	1.4	112
100 S3	8.5	1295.7	17.7	12.7	652
100 S4	0.07	4.7	16.2	1.8	63.1
500 S2	62.9	1.7	2.7	14.9	76.1
700 S1 (0.5-2.5)	9.9	24.0	3.9	37.5	138
700 S1 (2.5-4.5)	--	0.07	0.4	26.7	43.7
700 S2	165.9	49.2	92.0	16.1	241
700 S3	0.2	0.06	4.6	20.6	326
ABUST	4.5	41.8	20,008.3	11.7	1650
FP 1	0.3	33.0	232.6	9	157
FP 2	35.6	136.4	1952.0	6.9	324
GH 1	0	0	0.1	1.6	5.1
GH 2	0	0	0.1	1.2	4
LAB S1	10.7	28.4	2921.7	4.3	18.5
LAB S2 (Dup)	11.5	43.8	2537.6	4.1	51
LISTER S1 (0.5-2.5)	--	6.2	23.5	16.3	252
LISTER S1 (6.5-8.5)	--	0.04	0.03	0.7	4.2
LISTER S2	0.08	21.4	1.1	9.8	234
TRUCK S1	0.02	1.5	1.7	0.6	12.6
TRUCK S2	0.3	7.0	7.0	2.6	24.6
TRUCK S3	347.7	488.2	235.8	20.5	1330
TRUCK S4 (0.5-2.5)	--	161.1	43.7	58.7	599

TABLE 10
SOIL SAMPLE CONCENTRATION SUMMARY
REMEDIAL INVESTIGATION
CWM OF NEW JERSEY, INC.
(Mg/Kg)
(Cont'd)

Sample	Total VOC	Total SVOC	Total Pesticides	Metals	
				As	Pb
TRUCK S4 (2.5-4.5)	17.5	73.8	20.4	27.5	345
TRUCK S5 (0.5-2.5)	63.1	7428.5	109.3	42.8	428
TRUCK S5 (2.5-4.5)	--	7741.8	112.9	52.9	665
TRUCK S6	3.6	106.4	1.3	438	54.5
TRUCK S7 (Dup)	0.9	28.6	3.3	1030	3490

TABLE 11
PARAMETERS/SAMPLE LOCATIONS ABOVE
SOIL CLEANUP CRITERIA
REMEDIAL INVESTIGATION
CWM OF NEW JERSEY, INC.

Parameter	Criteria (Ug/Kg)	Sample Concentration (Ug/Kg)	Sample Location
Volatile Organic Compounds			
Tetrachloroethane	6,000	23,000	Truck-S3
Semi-Volatile Organic Compounds			
Benzo(a)Pyrene	660	2800	100-S1
		990	100-S2
		19,000	100-S3
		690	700-S1
		1,800	700-S2
		910	FP-S2
		1,000	Truck-S4 (0.5-2.5')
		1,300	Truck-S4 (2.5-4.5')
		3,400	Truck-S5 (0.5-2.5')
		1,300	Truck-S5 (2.5-4.5')
		1,700	Truck-S6
Benzo(a)Anthracene	4,000	19,000	100-S3
Hexachlorobenzene	2,000	18,000	Truck-S3
		6,400	Truck-S5 (0.5-2.5')
		2,300	Truck-S6
1,2,4-Trichlorobenzene	1,200,000	7,100,000	Truck-S5 (0.5-2.5')
		7,100,000	Truck-S5 (2.5-4.5')
Pesticides/PCB's			
Aldrin	170	2,500	ABUST
gamma-BHC	2,200	3,300	100-S1
		100,000	ABUST
		4,900	FP-S1
		43,000	FP-S2
		22,000	Lab-S1

TABLE 11
PARAMETERS/SAMPLE LOCATIONS ABOVE
SOIL CLEANUP CRITERIA
REMEDIAL INVESTIGATION
CWM OF NEW JERSEY, INC.
(Cont'd)

4,4-DDD	12,000	17,000	700-S2
		510,000	ABUST
		140,000	FP-S1
		150,000	FP-S2
		630,000	Lab-S1
		190,000	Truck-S3
		24,000	Truck-S4 (0.5-2.5')
		13,000	Truck-S4 (2.5-4.5')
		57,000	Truck-S5 (0.5-2.5')
		77,000	Truck-S5 (2.5-4.5')
4,4-DDE	9,000	87,000	100-S1
		510,000	ABUST
		14,000	FP-S1
		93,000	FP-S2
		51,000	Lab-S1
		16,000	Truck-S3
4,4-DDT	9,000	10,000,000	100-S1
		13,000	700-S2
		17,000,000	ABUST
		1,600,000	FP-52
		2,100,00	Lab-S1
		16,000	Truck-S4 (0.5-2.5')
Aroclor 1248	2,000	25,000	Truck-S3

TABLE 11
PARAMETERS/SAMPLE LOCATIONS ABOVE
SOIL CLEANUP CRITERIA
REMEDIAL INVESTIGATION
CWM OF NEW JERSEY, INC.
(Cont'd)

Parameter	Criteria (Mg/kg)	Sample Concentration (Mg/kg)	Sample Location
Metals			
Arsenic	2	14.1	100-S1
		12.7	100-S3
		14.9	500-S2
		37.5	700-S1 (0.5-2.5')
		26.7	700-S1 (2.5-4.5')
		16.1	700-S2
		20.6	700-S3
		11.7	ABUST
		9.0	FP-S1
		6.9	FP-S2
		4.3	Lab-S1
		16.3	Lister-S1 (0.5-2.5')
		9.8	Lister-S2
		2.6	Truck-S2
		20.5	Truck-S2
		58.7	Truck-S4 (0.5-2.5')
		27.5	Truck-S4 (2.5-4.5')
		42.8	Truck-S5 (0.5-2.5')
		52.9	Truck-S5 (2.5-4.5')
		438	Truck-S6
Beryllium	1	8.7	100-S3
		1.8	Truck-S3
Cadmium	100	257	100-S3
Copper	600	3,270	100-S3
		3,340	100-S4
		1,730	ABUST
		800	Truck-S3

TABLE 11
PARAMETERS/SAMPLE LOCATIONS ABOVE
SOIL CLEANUP CRITERIA
REMEDIAL INVESTIGATION
CWM OF NEW JERSEY, INC.
(Cont'd)

Lead	600	973	100-S1
		652	100-S3
		1,650	ABUST
		1,340	Truck-S3
		665	Truck-S5

TABLE 12
PARAMETERS/SAMPLE LOCATIONS ABOVE
GROUNDWATER CLASS II STANDARDS
REMEDIAL INVESTIGATION
CWM OF NEW JERSEY, INC.

Parameter	Criteria (Ug/L)	Sample Concentration (Ug/L)	Sample Location
Volatile Organic Compounds			
1,2-Dichloroethane	2	9	MW-1
Trichloroethene	1	2	MW-2
Benzene	1	640/390 2 69/42	MW-1 MW-3 HDMW-6
Chlorobenzene	4	250/300 11/9 900/490	MW-1 MW-3 HDMW-6
Semi-Volatile Organic Compounds			
1,4-Dichlorobenzene	75	82	HDMW-6
1,2,4-Trichlorobenzene	9	69	MW-1
Pesticides/PCB's			
alpha-BHC	0.02	380/4.1 2.2/0.23 0.47/0.60 0.029	MW-1 MW-2 MW-3 HDMW-6
beta-BHC	0.2	42/1.2 6/4.9 2.6/11	MW-1 MW-2 MW-3
gamma-BHC	0.2	1	MW-1
Heptachlor	0.4	0.66	MW-1
Heptachlor Epoxide	0.2	3	MW-1

TABLE 12
PARAMETERS/SAMPLE LOCATIONS ABOVE
GROUNDWATER CLASS II STANDARDS
REMEDIAL INVESTIGATION
CWM OF NEW JERSEY, INC.
(Cont'd)

Parameter	Criteria (Ug/L)	Sample Concentration (Ug/L)	Sample Location
Dieldrin	0.03	0.099/0.075	MW-1
4,4-DDD	0.1	0.25/0.18 0.30/0.11	MW-1 MW-3
4,4-DDT	0.1	0.15 0.69	MW-2 MW-3
Metals			
Arsenic	8	15.8 305/225 41.4/36.9	MW-1 MW-3 HDMW-6
Lead	10	25 3020/98.5	MW-1 MW-3
Aluminum	200	See Table ___	All Wells
Iron	300	See Table ___	All Wells
Manganese	50	See Table ___	All Wells
Sodium	50,000	415,000/524,000 613,000/379,000	MW-1 HDMW-6
Cyanide	200	372/275	MW-2

APPENDIX A

HISTORICAL DIOXIN SAMPLING DATA

Mark Dioxin

SCA CHEMICAL SERVICES, INC.
AN SCA SERVICES CO.

5 Middlesex Avenue
Somerville, Massachusetts 02145
(617) 367-8300 Telex 94-0473

SCA CHEMICAL SERVICES

October 20, 1983

Mr. Richard T. Dewling
Acting Regional Administrator
US EPA Region II
26 Federal Plaza
New York, NY 10007

Dear Mr. Dewling:

This letter is in response to allegations by Mr. Brady of Brady Iron and Metal, Inc. that SCA equipment could have been responsible or partly responsible for contamination of Mr. Brady's 55 Lockwood Street site. As per our telephone conversation of October 20, 1983, SCA had undertaken a comprehensive sampling of the Newark Earthline Facility site during the period from 6/3/83 to the present. Based on our sampling at the site and on our inspections of equipment prior to removal from the site, it is SCA's contention that the Earthline Facility could not possibly be the source of or have made a significant contribution to the the contamination at the Brady Iron & Metal site.

Using a sampling plan approved by Michael Catania, Director, NJDEP Department of Regulatory Services, SCA and NJDEP site inspectors have collected more than thirty (30) samples from the site. In order to get complete coverage the site was divided into a gridwork of sixteen (16) zones with a minimum of one (1) sample collected from each zone (Figure 1). ETC Corporation of Edison, New Jersey performed all analyses and reported results directly to Mr. Catania and Dr. Berkowitz of the NJDEP.

Analytic results from ETC laboratories demonstrate conclusively that there is no evidence of gross contamination on the SCA-leased property at 100 Lister Ave. Dioxin contamination above 1 ppb was found in some settled dust samples. However, this contamination is not associated with sources on the SCA property but rather from wind dispersion and traffic from from the known hot spots of contamination on Merisol property. SCA vehicles which were garaged on Merisol property and traversed Merisol and Sargeant property were also contaminated because of their assocation with the Merisol property.

The SCA site soil, sweep, and gravel samples show little or no dioxin contamination. In fact all soil samples (sample numbers 3, 4, 5, 6, 7, 8, and 9) and soil core samples (sample numbers 29, and 30) have shown no detectable dioxin. This fact is particularly relevant in that the grid zones A3, A4, B3, B4 and C3 are the site of a former Montrose Chemical process building (#5A). This structure, which was demolished by SCA when SCA first leased the property, housed several Montrose reactors and tanks. Several vessels were removed from service

by SCA, some of which were put into storage while others went to salvage. These vessels were inspected and found free of chemical residues by SCA and SCA Contractors on two occasions, first at the time of acquisiton of the facility lease and second immediately prior to removal from the site.

We believe that based on the evidence of our visual examinations and the extensive sampling of the site by the NJDEP that the dioxin contamination at the Brady site has originated from sources other than SCA equipment or property..

SCA remains willing to cooperate to the fullest extent with you in the investigation of this matter.

Sincerely,

Richard B. Mahoney
Manager, Environmental Permitting

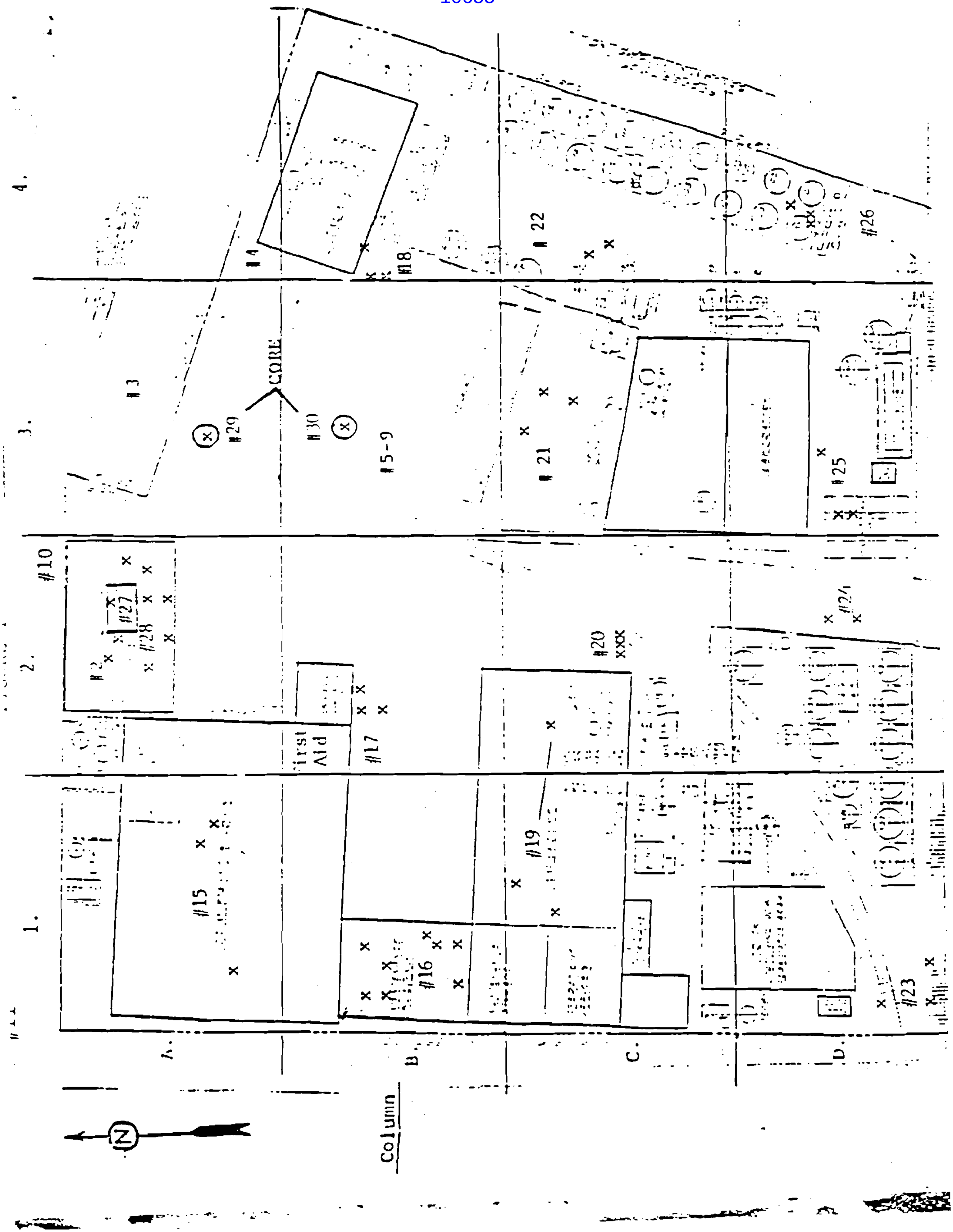
RM:sa
Enclosures

cc: R. Fletcher

S/RM05 -2-

CA#	ETC#	DATE SAMPLED	GRID ZONE	SAMPLE TYPE	RESULTS
2	C4241	6-3	A-2	AC COMPRESSOR	3.5 ppb
3	C4238	6-3	A-3	GRAVEL SCOOP	ND
4	C4237	6-3	B-3	GRAVEL SCOOP	ND
5	C4242	6-3	B-3	GRAVEL SCOOP	ND
6	C4243	6-3	B-3	GRAVEL SCOOP	ND
7	C4244	6-3	B-3	GRAVEL SCOOP	ND
8	C4245	6-3	B-3	GRAVEL SCOOP	ND
9	C4246	6-3	B-3	GRAVEL SCOOP	ND
10	C4240	6-3	North of A-2 Sargent Prop	GRAVEL SCOOP	4.1 ppb
11	C4239	6-3	North of A-1 Sargent Prop	GRAVEL SCOOP	3.8 ppb
12	C4492	6-9	A-2	DUST AC EVAPORATORS; SCOOP	15 ppb
13	C4493	6-9	A-2	RUG FIBERS	ND
14	C4572	6-10	A-2	VACUUM BAG DUST	3.4 ppb
15	C7838	7-26	A-1	SWEEP DUST	ND
16	C7833	7-26	B-1	SWEEP DUST	ND
17	C7839	7-26	B-2	SWEEP DIRT	0.33 ppb
18	C7832	7-26	B-4	SWEEP DUST	ND
19	C7831	7-26	C-1	SWEEP DUST	0.44
20	C7841	7-26	C-2	SCRAPE CRACK RR TRACKS	0.37 ppb
21	C7840	7-26	C-3	SWEEP DUST	ND
22	C7830	7-26	C-4	SCRAPE FROM CRACK	1.6 ppb
23	C7842	7-26	D-1	SCRAPE FROM RR TRACKS	ND
24	C7837	7-26	D-2	SWEEP DUST	ND
25	C7843	7-26	D-3	SWEEP DUST	0.23 ppb
26	C7836	7-26	D-4	SWEEP DUST	ND
27	C7657	7-21	A-2	AC SWIPE DUCT	1.3 ng
28	C7658	7-21	A-2	DUST BUSTER CARPET	0.77 ppb
29	C7844	7-26	A-3	CORE SAMPLE	ND
30	C7835	7-26	B-3	CORE SAMPLE	ND

S/RM1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#27
#28
#2
First Aid

ETC TESTING and CERTIFICATION

DATA MANAGEMENT REPORT

FOR

SCA SERVICES, INC.
NEWARK FACILITY

DIOXIN PROJECT

September, 1983

284 RARITAN CENTER PARKWAY • EDISON, NJ 08837 (201) 225-5600

ETC ENVIRONMENTAL TESTING and CERTIFICATION

DATA MANAGEMENT SUMMARY REPORT (DM-OC) - All Parameters Tested, Selected Samples

September 16, 19
Page 1

Chain of Custody Data Required for ETC Data Management Summary Report

See Below	SCA CHEMICAL SERVICES	NEWARK	See Below	
ETC Sample No.	*Company*	*Facility*	*Sample Point*	*Date*

Parameters	*Units*	*Sample Points, Sampling Dates, and ETC Sample No.'s*							
		SAMPLE I 830331 C0829	SAMPLE II 830331 C0854						
PP Base/Neutral Compounds									
2,3,7,8-TCDD	ug/kg	ND	ND						

Footnotes: BMDL=Below Method Detection Limit ND=Parameter not detected '-'=Parameter not tested

ETC ENVIRONMENTAL TESTING and CERTIFICATION

DATA MANAGEMENT SUMMARY REPORT
(DM-1C) - All Parameters Present, Selected Samples

September 29, 19

Chain of Custody Data Required for ETC Data Management Summary Report

See Below	SCA CHEMICAL SERVICES	NEWARK	See Below	
ETC Sample No.	*Company*	*Facility*	*Sample Point*	*Date*

Parameters	*Units*	*Sample Points, Sampling Dates, and ETC Sample No.'s*							
		S 4C 830602 C4190	S 6A 830602 C4191	S 7A 830602 C4192	S 8A 830602 C4193				
PP Base/Neutral Compounds									
2,3,7,8-TCDD	ug/kg	4.2	0.43	0.36	0.93				

Footnotes: BMDL=Below Method Detection Limit ND=Parameter not detected '-'=Parameter not tested

ETC ENVIRONMENTAL TESTING and CERTIFICATION

DATA MANAGEMENT SUMMARY REPORT
(DM-1C) - All Parameters Present, Selected Samples

September 29, 19

Chain of Custody Data Required for ETC Data Management Summary Report

See Below	SCA CHEMICAL SERVICES	NEWARK	See Below	
ETC Sample No.	*Company*	*Facility*	*Sample Point*	*Date*

Parameters	*Units*	Sample Points, Sampling Dates, and ETC Sample No.'s							
		2 830603 C4241	3 830603 C4238	4 830603 C4237	4D 830603 C4249	5 830603 C4242	7 830603 C4244	8 830603 C4245	9 830603 C4246
PP Base/Neutral Compounds									
2,3,7,8-TCDD	ug/kg	3.5	ND	ND	ND	ND	ND	ND	ND

Footnotes: BMDL=Below Method Detection Limit ND=Parameter not detected '-'=Parameter not tested

ETC ENVIRONMENTAL TESTING and CERTIFICATION

DATA MANAGEMENT SUMMARY REPORT
(DM-1C) - All Parameters Present, Selected Samples

September 29, 19

Chain of Custody Data Required for ETC Data Management Summary Report

See Below	SCA CHEMICAL SERVICES	NEWARK	See Below	
ETC Sample No.	*Company*	*Facility*	*Sample Point*	*Date*

Parameters	*Units*	*Sample Points, Sampling Dates, and ETC Sample No.'s*							
		10 830603 C4240	10 830603 C4479	11 830603 C4239	#27MB 830603 C4247	495G-0080N 830603 C4248	12 830609 C4492	13 830609 C4493	14 830610 C4572
PP Base/Neutral Compounds									
2,3,7,8-TCDD	ug/kg	*	4.1	3.8	ND	1.1	15	ND	3.4

Footnotes: BMDL=Below Method Detection Limit ND=Parameter not detected '-'=Parameter not tested

ETC ENVIRONMENTAL TESTING and CERTIFICATION

DATA MANAGEMENT SUMMARY REPORT
(DM-1C) - All Parameters Present, Selected Samples

September 29, 19

Chain of Custody Data Required for ETC Data Management Summary Report

See Below	SCA CHEMICAL SERVICES	NEWARK	See Below	
ETC Sample No.	*Company*	*Facility*	*Sample Point*	*Date*

Parameters	*Units*	*Sample Points, Sampling Dates, and ETC Sample No.'s*							
		X XKA-71J 830705 C6575	X XKA-71J 830705 C7545	X XSP-56C 830705 C6573	X XSP-92D 830705 C6576	X XSP-92D 830705 C7546	X XXZ-42C 830705 C6574	X XXZ-42C 830705 C7544	
PP Base/Neutral Compounds									
2,3,7,8-TCDD	ug/kg	*	*	12	*	*	*	*	

Footnotes: BMDL=Below Method Detection Limit ND=Parameter not detected "*"=Parameter not tested

ETC ENVIRONMENTAL TESTING and CERTIFICATION

DATA MANAGEMENT SUMMARY REPORT
(DM-1C) - All Parameters Present, Selected Samples

September 29, 19:

Chain of Custody Data Required for ETC Data Management Summary Report

See Below	SCA CHEMICAL SERVICES	NEWARK	See Below	
ETC Sample No.	*Company*	*Facility*	*Sample Point*	*Date*

Parameters	*Units*	*Sample Points, Sampling Dates, and ETC Sample No.'s*							
		YUL-49Y 830705 C6572	YUL-49Y 830705 C7543						
PP Base/Neutral Compounds									
2,3,7,8-TCDD	ug/kg	*	*						

Footnotes: BMDL=Below Method Detection Limit ND=Parameter not detected '-'=Parameter not tested

ETC ENVIRONMENTAL TESTING and CERTIFICATION

DATA MANAGEMENT SUMMARY REPORT
(DM-1C) - All Parameters Present, Selected Samples

September 29, 1

Chain of Custody Data Required for ETC Data Management Summary Report

See Below	SCA CHEMICAL SERVICES	NEWARK	See Below	
ETC Sample No.	*Company*	*Facility*	*Sample Point*	*Date*

Parameters	*Units*	*Sample Points, Sampling Dates, and ETC Sample No.'s*							
		X AIR DUCT 830721 C7657	X RUG 830721 C7658	2 TANKER 830722 C7772	X PICKUP 830722 C7774	SHORT VAN 830722 C7775	VAC TK 77 830722 C7771	VAC TK 82 830722 C7773	VAC T 83072 C8469
PP Base/Neutral Compounds									
2,3,7,8-TCDD	ug/kg	1.3	0.77	ND	25	17	8.5	ND	*

Footnotes: BMDL=Below Method Detection Limit ND=Parameter not detected '-'=Parameter not tested

ETC ENVIRONMENTAL TESTING and CERTIFICATION

DATA MANAGEMENT SUMMARY REPORT
(DM-1C) - All Parameters Present, Selected Samples

September 29, 19

Chain of Custody Data Required for ETC Data Management Summary Report

See Below	SCA CHEMICAL SERVICES	NEWARK	See Below	
ETC Sample No.	*Company*	*Facility*	*Sample Point*	*Date*

Parameters	*Units*	*Sample Points, Sampling Dates, and ETC Sample No.'s*						
		S SCA 15 830726 C7838	S SCA 16 830726 C7833	S SCA 16 830726 C9781	S SCA 17 830726 C7839	S SCA 18 830726 C7832	S SCA 19 830726 C7831	S SCA 20 830726 C7841
PP Base/Neutral Compounds								
2,3,7,8-TCDD	ug/kg	ND	*	6.6	0.33	ND	0.44	0.37

Footnotes: BMDL=Below Method Detection Limit ND=Parameter not detected '-'=Parameter not tested

ETC ENVIRONMENTAL TESTING and CERTIFICATION

DATA MANAGEMENT SUMMARY REPORT
(DM-1C) - All Parameters Present, Selected Samples

September 29, 1

Chain of Custody Data Required for ETC Data Management Summary Report

See Below	SCA CHEMICAL SERVICES	NEWARK	See Below	
ETC Sample No.	*Company*	*Facility*	*Sample Point*	*Date*

Parameters	*Units*	*Sample Points, Sampling Dates, and ETC Sample No.'s*							
		S SCA 21 830726 C7840	S SCA 21 830726 C9991	S SCA 22 830726 C7830	S SCA 23 830726 C7842	S SCA 23 830726 C9992	S SCA 24 830726 C7837	S SCA 25* 830726 C7843	S SCA 26 830726 C7836
PP Base/Neutral Compounds									
2,3,7,8-TCDD	ug/kg	*	ND	1.6	*	ND	ND	0.23	ND

Footnotes: BMDL=Below Method Detection Limit ND=Parameter not detected '-'=Parameter not tested

ETC ENVIRONMENTAL TESTING and CERTIFICATION

DATA MANAGEMENT SUMMARY REPORT
(DM-1C) - All Parameters Present, Selected Samples

September 29, 19

Chain of Custody Data Required for ETC Data Management Summary Report

See Below	SCA CHEMICAL SERVICES	NEWARK	See Below	
ETC Sample No.	*Company*	*Facility*	*Sample Point*	*Date*

Parameters	*Units*	*Sample Points, Sampling Dates, and ETC Sample No's*							
		S SCA 29C 830726 C7844	S SCA 30C 830726 C7835						
PP Base/Neutral Compounds									
2,3,7,8-TCDD	ug/kg	ND	ND						

Footnotes: D=Dl.=Below Method Detection Limit ND=Parameter not detected *=Parameter not tested

ETC ENVIRONMENTAL TESTING and CERTIFICATION

DATA MANAGEMENT SUMMARY REPORT
Facility/Sample Point Log (DM-20)

THU, SEP 22, 1983, 3:12 PM

Bill To Account	Facility	SRC Sample Point	Date	Time	Elapsed Time	ETC Sample Number	ETC Status	Order Date	Chain of Custody CC1	Chain of Custody CC2	Sample Point Verification	OSPR
1645056	NEWARK	12	83/06/09			C4492	INVC	83/06/09	N	N		1101
1645056	NEWARK	13	83/06/09			C4493	INVC	83/06/09	N	N		1101
1645056	NEWARK	COMPOSITE	82/02/25			Z1136	INVC	81/08/10	N	N		1101
1645056	NEWARK	COMPOSITE	82/03/11			Z1136	INVC	81/08/10	N	N		1101
1645056	NEWARK	D1 TANK	82/01/19			Z0786	INVC	81/08/10	N	N		1101
1645056	NEWARK	SAMPLE I	83/03/31			C0829	INVC	83/03/31				1101
1645056	NEWARK	SAMPLE II	83/03/31			C0854	INVC	83/03/31				1101
1645056	NEWARK	XTANK511	83/09/14			D1352	NEWO	83/09/13	Y	Y		1100
1645056	NEWARK	XXKA-71J	83/07/05			C7545	INVC	83/07/18	Y	Y		1101
1645056	NEWARK	XXKA-71J	83/07/05			C6575	INVC	83/07/01	Y	Y		1101
1645056	NEWARK	XXSP-56C	83/07/05			C6573	INVC	83/07/01	Y	Y		1101
1645056	NEWARK	XXSP-92D	83/07/05			C7546	INVC	83/07/18	Y	Y		1101
1645056	NEWARK	XXSP-92D	83/07/05			C6576	INVC	83/07/01	Y	Y		1101
1645056	NEWARK	XXZ-42C	83/07/05			C7544	INVC	83/07/18	Y	Y		1101
1645056	NEWARK	XXXZ-42C	83/07/05			C6574	INVC	83/07/01	Y	Y		1101
1645056	NEWARK	YUL-49Y	83/07/05			C7543	INVC	83/07/18	Y	Y		1101
1645056	NEWARK	YUL-49Y	83/07/05			C6572	INVC	83/07/01	Y	Y		1101
1645056	NEWARK-NJD		/ /			D1703	NEWO	83/09/16				1100
1645056	NEWARK-NJD	#27MB	83/06/03			C4247	INVC	83/06/03				1101
1645056	NEWARK-NJD	11	83/06/03			C4239	INVC	83/06/03				1101
1645056	NEWARK-NJD	2	83/06/03			C4241	INVC	83/06/03				1101
1645056	NEWARK-NJD	3	83/06/03			C4238	INVC	83/06/03				1101
1645056	NEWARK-NJD	4	83/06/03			C4237	INVC	83/06/03				1101

Client Reviewer: _____

Date: _____

ETC Reviewer: _____

Date: _____

ETC ENVIRONMENTAL TESTING and CERTIFICATION

DATA MANAGEMENT SUMMARY REPORT
Facility/Sample Point Log (DM-20)

THU, SEP 22, 1983, 3:13 PM

Bill To Account	Facility	SRC Sample Point	Date	Time	Elapsed Time	ETC Sample Number	ETC Status	Order Date	Chain of Custody CC1	Chain of Custody CC2	Sample Point Verification	OSPR
1645056	NEWARK-NJD	495G-0080N	83/06/03			C4248	INVC	83/06/03				1101
1645056	NEWARK-NJD	4D	83/06/03			C4249	INVC	83/06/03				1101
1645056	NEWARK-NJD	5	83/06/03			C4242	INVC	83/06/03				1101
1645056	NEWARK-NJD	6	83/06/03			C4243	INVC	83/06/03				1101
1645056	NEWARK-NJD	7	83/06/03			C4244	INVC	83/06/03				1101
1645056	NEWARK-NJD	8	83/06/03			C4245	INVC	83/06/03				1101
1645056	NEWARK-NJD	9	83/06/03			C4246	INVC	83/06/03				1101
1645056	NEWARKNJ-D	10	83/06/03			C4240	INVC	83/06/03				1101
1645056	NEWARKNJ-D	10	83/06/08			C4479	INVC	83/06/08				1101
1645056	NEWARKNJ-D	14	83/06/10			C4572	INVC	83/06/10	N	N		1101
1645056	NEWARKNJ-D	2 TANKER	83/07/22	10:15		C7772	INVC	83/07/22	Y	Y		1101
1645056	NEWARKNJ-D	XAIR DUCT	83/07/21	10:47		C7657	INVC	83/07/21	Y	Y		1101
1645056	NEWARKNJ-D	XPICKUP	83/07/22	11:45		C7774	INVC	83/07/22	Y	Y		1101
1645056	NEWARKNJ-D	XRUG	83/07/21	11:25		C7658	INVC	83/07/21	Y	Y		1101
1645056	NEWARKNJ-D	SSCA 15	83/07/26	9:05		C7838	INVC	83/07/22	Y	Y		1101
1645056	NEWARKNJ-D	SSCA 16	83/07/26	9:25		C7833	INVC	83/07/22	Y	Y		1101
1645056	NEWARKNJ-D	SSCA 16	83/07/26	9:25		C9781	INVC	83/08/17	N	N		1101
1645056	NEWARKNJ-D	SSCA 17	83/07/26	9:40		C7839	INVC	83/07/22	Y	Y		1101
1645056	NEWARKNJ-D	SSCA 18	83/07/26	9:45		C7832	INVC	83/07/22	Y	Y		1101
1645056	NEWARKNJ-D	SSCA 19	83/07/26			C7831	INVC	83/07/22	Y	Y		1101
1645056	NEWARKNJ-D	SSCA 20	83/07/26	10:00		C7841	INVC	83/07/22	Y	Y		1101
1645056	NEWARKNJ-D	SSCA 21	83/07/26	10:05		C7840	INVC	83/07/22	Y	Y		1101
1645056	NEWARKNJ-D	SSCA 21	83/07/26	10:05		C9991	INVC	83/08/19	Y	Y		1101

Client Reviewer: _____

Date: _____

ETC Reviewer: _____

Date: _____

ETC ENVIRONMENTAL TESTING and CERTIFICATION

DATA MANAGEMENT SUMMARY REPORT
Facility/Sample Point Log (DM-20)

THU, SEP 22, 1983, 3:14 PM

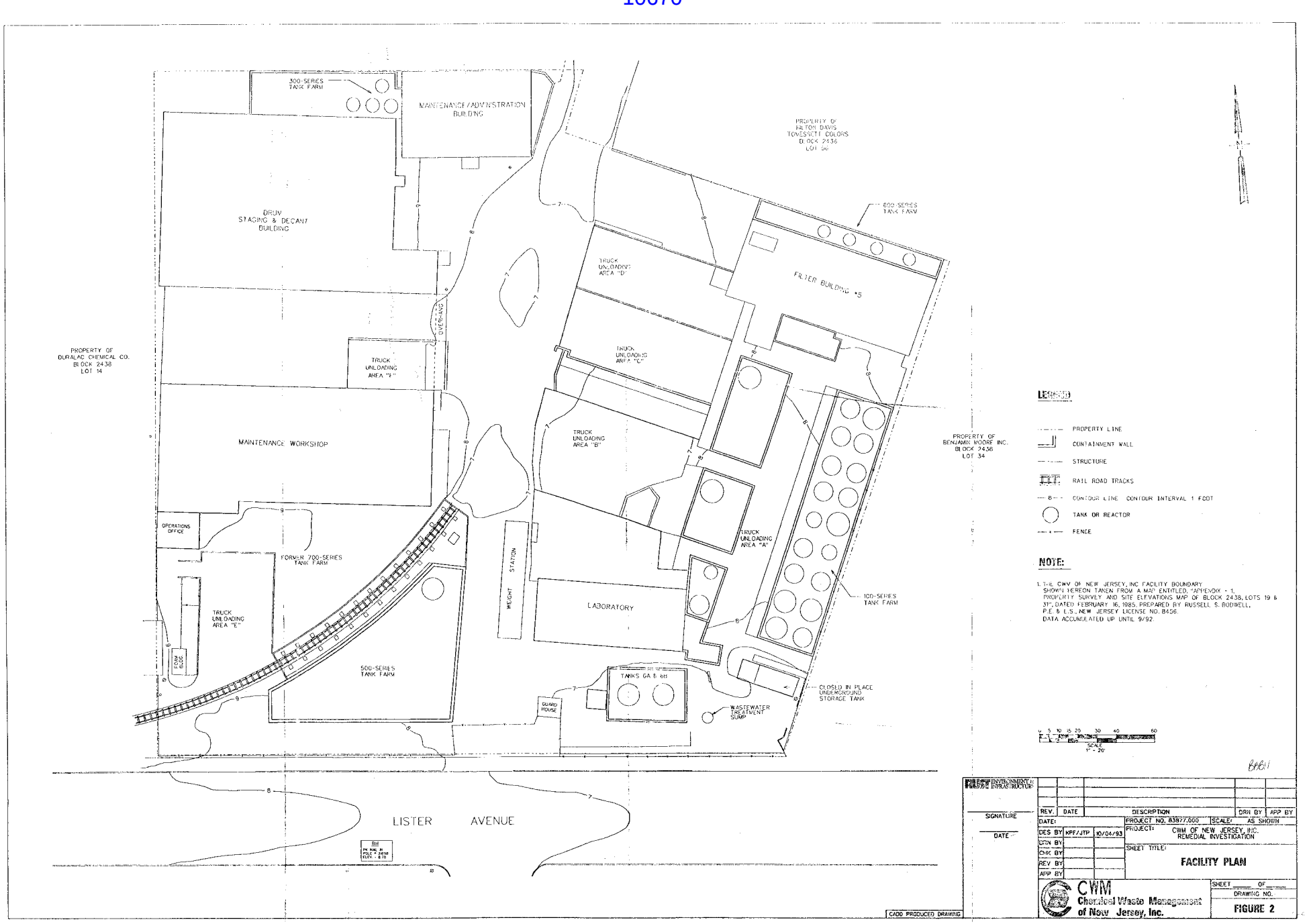
Bill To Account	Facility	SAC Sample Point	Date	Time	Elapsed Time	ETC Sample Number	ETC Status	Order Date	Chain of Custody CC1	Chain of Custody CC2	Sample Point Verification	OSPR
1645056	NEWARKNJ-D	SSCA 22	83/07/26	10:15		C7830	INVC	83/07/22	Y	Y		1101
1645056	NEWARKNJ-D	SSCA 23	83/07/26	10:30		C7842	INVC	83/07/22	Y	Y		1101
1645056	NEWARKNJ-D	SSCA 23	83/07/26	10:30		C9992	INVC	83/08/19	Y	Y		1101
1645056	NEWARKNJ-D	SSCA 24	83/07/26	10:35		C7837	INVC	83/07/22	Y	Y		1101
1645056	NEWARKNJ-D	SSCA 25	83/07/26	10:40		C7843	INVC	83/07/22	Y	Y		1101
1645056	NEWARKNJ-D	SSCA 26	83/07/26	10:50		C7836	INVC	83/07/22	Y	Y		1101
1645056	NEWARKNJ-D	SSCA 29C	83/07/26	11:00		C7844	INVC	83/07/22	Y	Y		1101
1645056	NEWARKNJ-D	SSCA 30C	83/07/26	11:15		C7835	INVC	83/07/22	Y	Y		1101
1645056	NEWARKNJ-D	SHORT VAN	83/07/22	11:50		C7775	INVC	83/07/22	Y	Y		1101
1645056	NEWARKNJ-D	VAC TK 77	83/07/22	10:10		C7771	INVC	83/07/22	Y	Y		1101
1645056	NEWARKNJ-D	VAC TK 82	83/07/22	10:20		C7773	INVC	83/07/22	Y	Y		1101
1645056	NEWARKNJ-D	VAC TK 82	83/07/22	10:20		C8469	INVC	83/07/30	Y	Y		1101
1645056	SCANJ-D	S4C	83/06/02			C4190	INVC	83/06/03	N	N		1101
1645056	SCANJ-D	S6A	83/06/02			C4191	INVC	83/06/03	N	N		1101
1645056	SCANJ-D	S7A	83/06/02			C4192	INVC	83/06/03	N	N		1101
1645056	SCANJ-D	S8A	83/06/02			C4193	INVC	83/06/03	N	N		1101

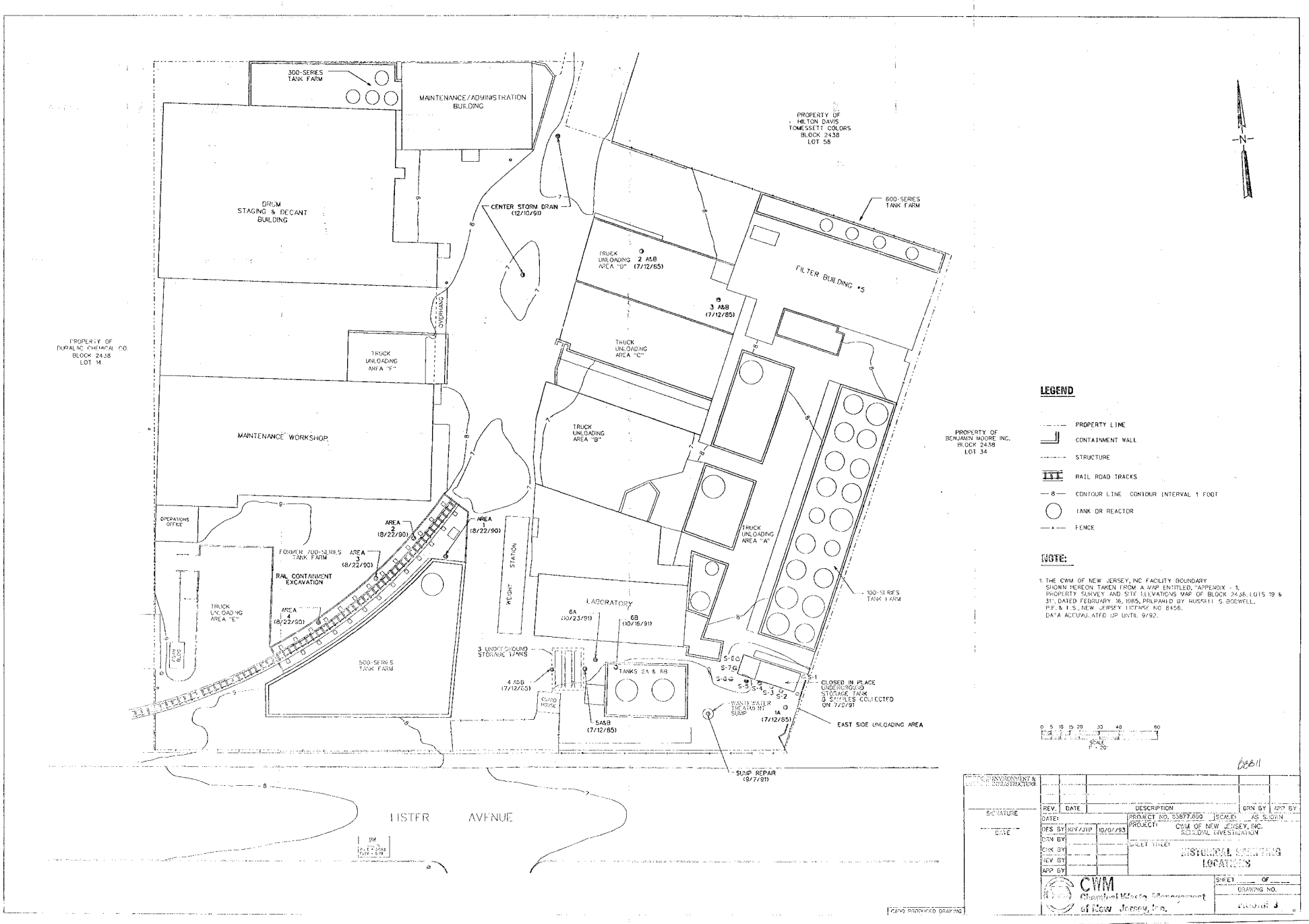
Client Reviewer: _____

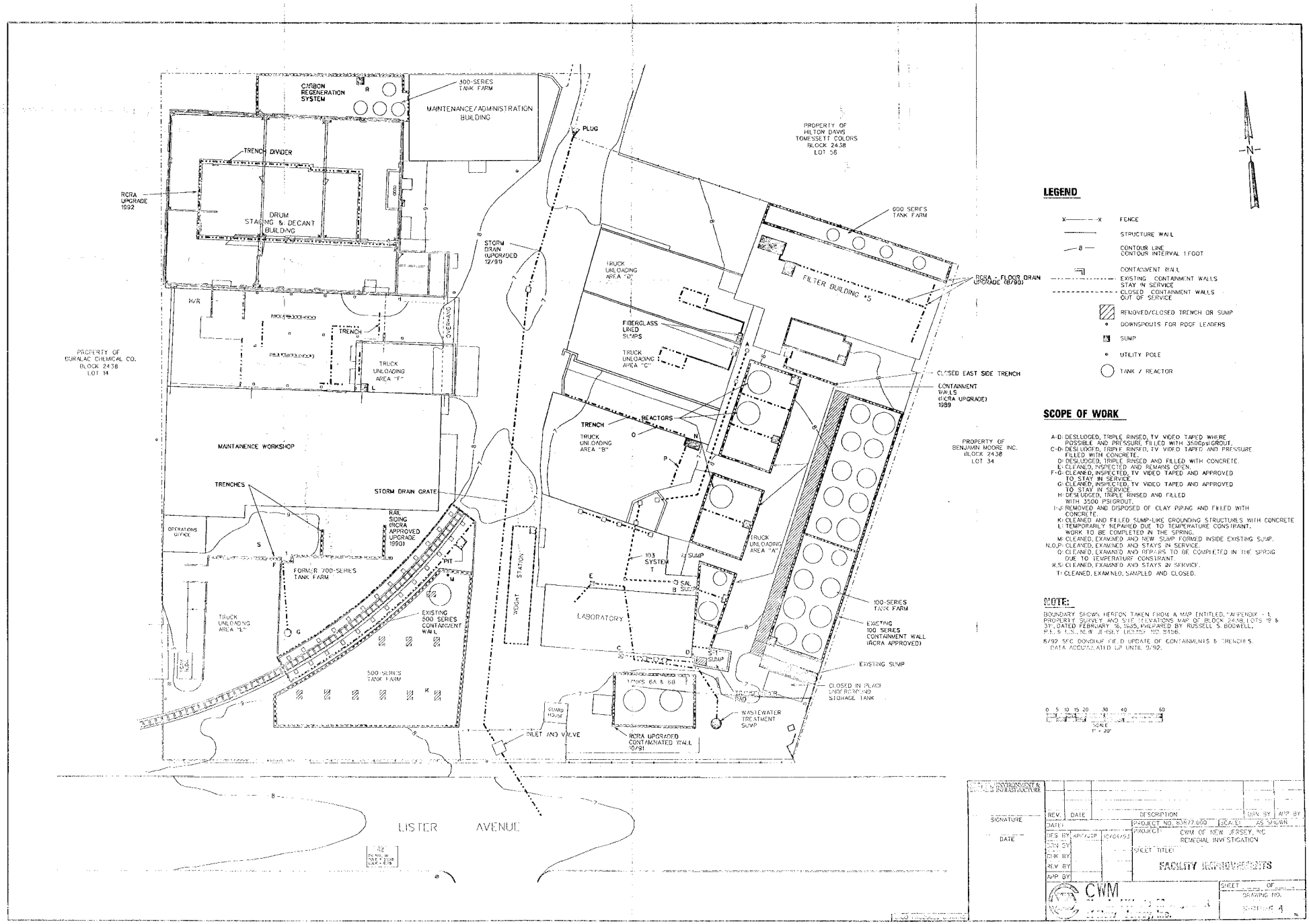
Date: _____

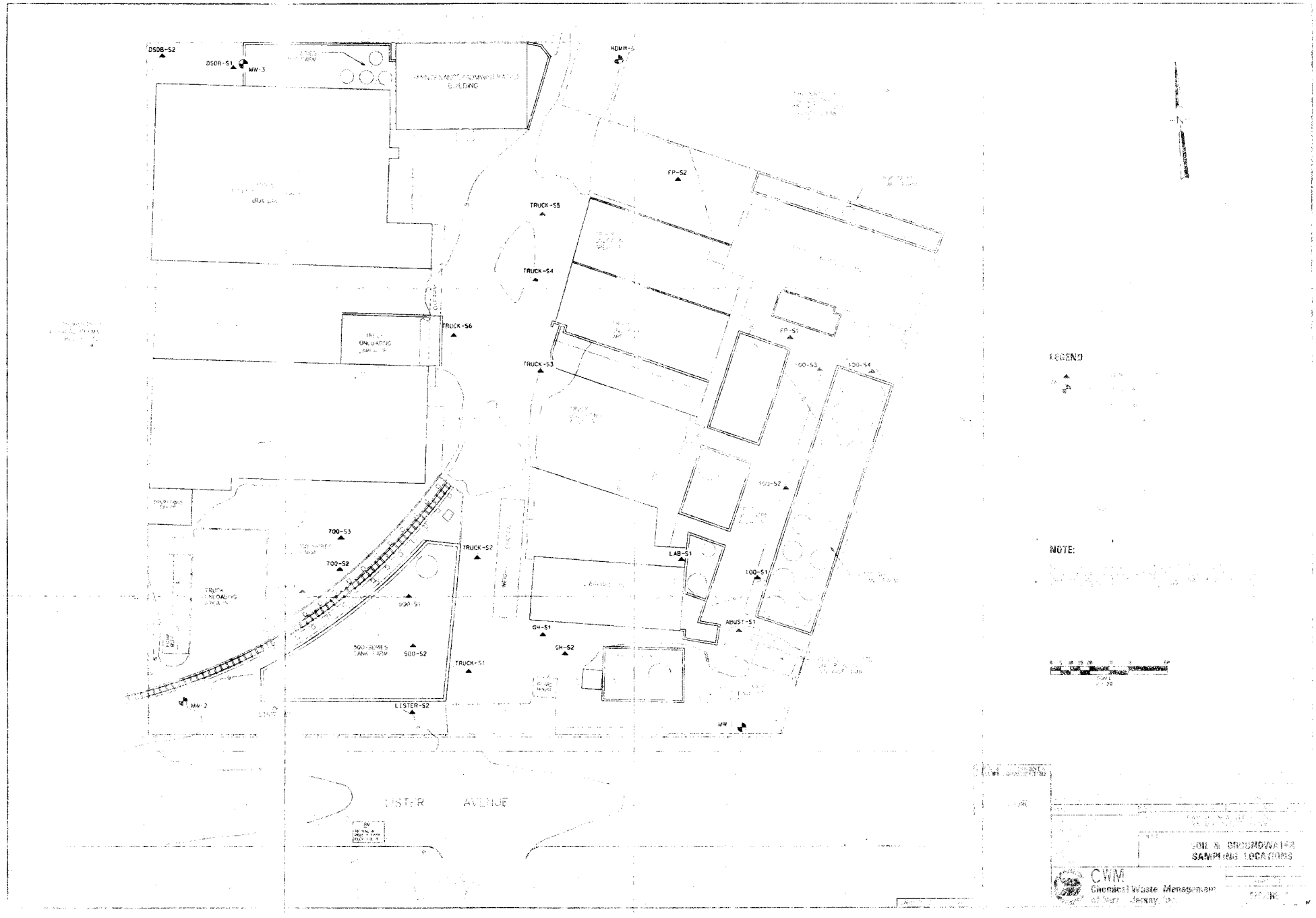
ETC Reviewer: _____

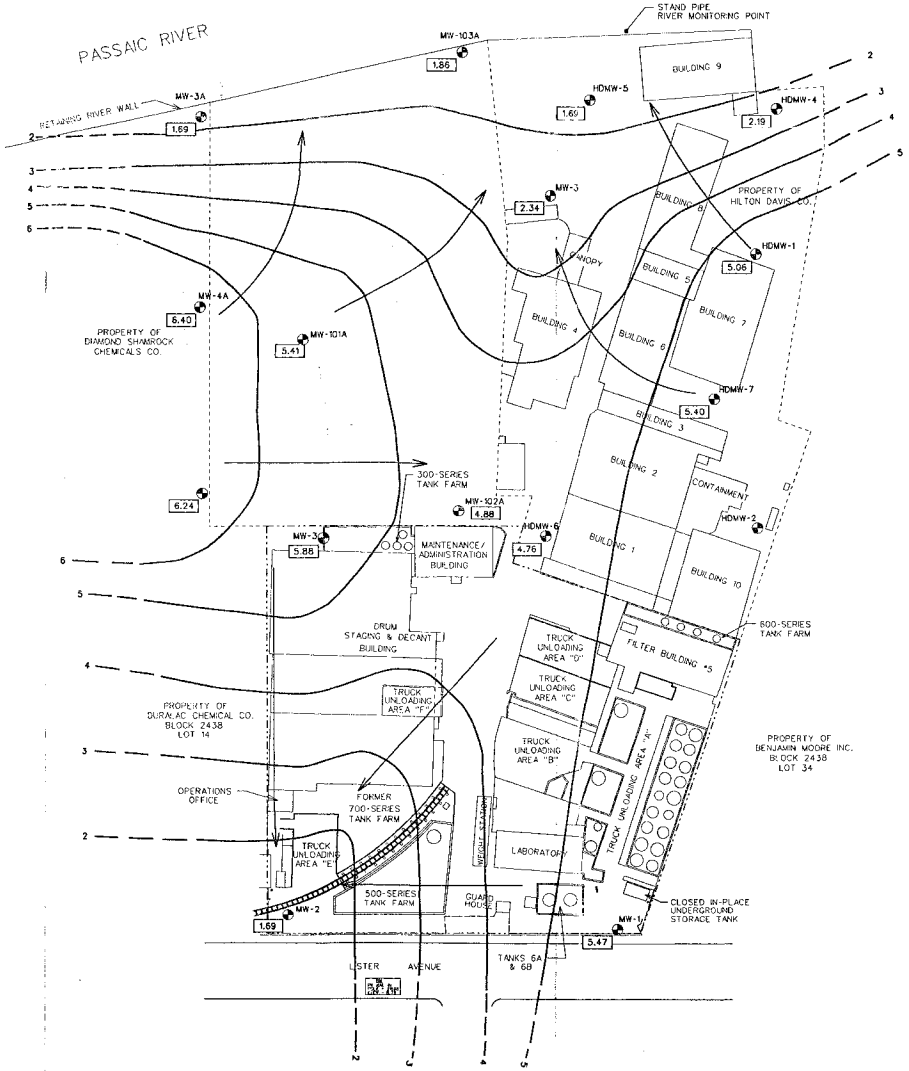
Date: _____

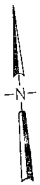

300-SERIES TANK FARM
MAINTENANCE / ADMINISTRATION BUILDING
PROPERTY OF RITCH DAVIS TONESSCITT COLORS BLOCK 2436 LOT 60
DRUM STAGING & DECANT BUILDING
600 SERIES TANK FARM
FILTER BUILDING #5
TRUCK UNLOADING AREA "D"
TRUCK UNLOADING AREA "C"
OVERHANG
PROPERTY OF DURALAC CHEMICAL CO. BLOCK 2438 LOT 14
TRUCK UNLOADING AREA "F"
MAINTENANCE WORKSHOP
TRUCK UNLOADING AREA "B"
PROPERTY OF BENJAMIN MOORE INC. BLOCK 2436 LOT 34
OPERATIONS OFFICE
FORMER 700-SERIES TANK FARM
WEIGHT STATION
TRUCK UNLOADING AREA "A"
LABORATORY
100-SERIES TANK FARM
TRUCK UNLOADING AREA "E"
FORM 6106
500-SERIES TANK FARM
TANKS GA & GB
CLOSED IN PLACE UNDERGROUND STORAGE TANK
GUARD HOUSE
WASTEWATER TREATMENT SUMP
LISTER AVENUE
BM
LEGEND
PROPERTY LINE
CONTAINMENT WALL
STRUCTURE
RAIL ROAD TRACKS
CONTOUR LINE CONTOUR INTERVAL 1 FOOT
TANK OR REACTOR
FENCE
NOTE:
1. THE CWM OF NEW JERSEY, INC FACILITY BOUNDARY SHOWN HEREON TAKEN FROM A MAP ENTITLED, "APPENDIX - 1, PROPERTY SURVEY AND SITE ELEVATIONS MAP OF BLOCK 2438, LOTS 19 & 31", DATED FEBRUARY 16, 1985, PREPARED BY RUSSELL S. BODWELL, P.E. & L.S., NEW JERSEY LICENSE NO. 8456. DATA ACCUMULATED UP UNTIL 9/92.
0 5 10 15 20 30 40 60
SCALE 1" = 20'
SIGNATURE
DATE
REV. DATE DESCRIPTION DRN BY APP BY
DATE:
DES BY KPF/JTP 10/04/93
DRN BY
CHK BY
REV BY
APP BY
PROJECT NO. 83877.000 SCALE: AS SHOWN
PROJECT: CWM OF NEW JERSEY, INC. REMEDIAL INVESTIGATION
SHEET TITLE: FACILITY PLAN
CWM Chemical Waste Management of New Jersey, Inc.
SHEET OF
DRAWING NO.
FIGURE 2
CADD PRODUCED DRAWING


300-SERIES TANK FARM
MAINTENANCE/ADMINISTRATION BUILDING
PROPERTY OF HILTON DAVIS TOMESSETT COLORS BLOCK 2438 LOT 58
DRUM STAGING & DECANT BUILDING
CENTER STORM DRAIN (12/10/91)
600-SERIES TANK FARM
TRUCK UNLOADING AREA "D" 2 A&B (7/12/85)
FILTER BUILDING #5
3 A&B (7/12/85)
OVERHANG
PROPERTY OF DURALAC CHEMICAL CO. BLOCK 2438 LOT 14
TRUCK UNLOADING AREA "F"
TRUCK UNLOADING AREA "C"
MAINTENANCE WORKSHOP
TRUCK UNLOADING AREA "B"
PROPERTY OF BENJAMIN MOORE INC. BLOCK 2438 LOT 34
OPERATIONS OFFICE
AREA 2 (8/22/90)
AREA 1 (8/22/90)
FORMER 700-SERIES TANK FARM
AREA 3 (8/22/90)
RAIL CONTAINMENT EXCAVATION
TRUCK UNLOADING AREA "E"
AREA 4 (8/22/90)
SCALE HOUSE
WEIGHT STATION
LABORATORY
6A (10/23/91)
6B (10/16/91)
TRUCK UNLOADING AREA "A"
100-SERIES TANK FARM
3 UNDERGROUND STORAGE TANKS
500-SERIES TANK FARM
4 A&B (7/12/85)
GUARD HOUSE
TANKS 5A & 5B
S-1
S-2
S-3
S-4
S-5
S-6
S-7
S-8
CLOSED IN PLACE UNDERGROUND STORAGE TANK 8 SYSTEMS COMPLETED ON 7/2/91
WASTEWATER TREATMENT SUMP
1A (7/12/85)
5A&B (7/12/85)
EAST SIDE UNLOADING AREA
SUMP REPAIR (9/7/91)
LISTER AVENUE
LEGEND
PROPERTY LINE
CONTAINMENT WALL
STRUCTURE
RAIL ROAD TRACKS
8 CONTOUR LINE CONTOUR INTERVAL 1 FOOT
TANK OR REACTOR
FENCE
NOTE:
1. THE CWM OF NEW JERSEY, INC FACILITY BOUNDARY SHOWN HEREON TAKEN FROM A MAP ENTITLED, "APPENDIX - 1, PROPERTY SURVEY AND SITE ELEVATIONS MAP OF BLOCK 2438, LOTS 19 & 31", DATED FEBRUARY 16, 1985, PREPARED BY RUSSELL S. BODWELL, P.E.& L.S., NEW JERSEY LICENSE NO 8456. DATA ACCUMULATED UP UNTIL 9/92.
0 5 10 15 20 30 40 60
SCALE 1" = 20'
REV. DATE DESCRIPTION DRN BY APP BY
DATE:
PROJECT NO. 83677.000 SCALE: AS SHOWN
DES BY KFF/JVP 10/07/93
PROJECT: CWM OF NEW JERSEY, INC. REMEDIAL INVESTIGATION
DRN BY
CHK BY
REV BY
APP BY
SHEET TITLE: HISTORICAL SAMPLING LOCATIONS
CWM Chemical Waste Management of New Jersey, Inc.
SHEET OF
DRAWING NO.
REVISION 3
SIGNATURE
DATE
DEPT. OF ENVIRONMENT & ENERGY INFRASTRUCTURE
DENOTES PROPOSED DRAWING


CARBON REGENERATION SYSTEM
100-SERIES TANK FARM
MAINTENANCE/ADMINISTRATION BUILDING
PLUG
PROPERTY OF HILTON DAVIS TOMESSETT COLORS BLOCK 2438 LOT 56
TRENCH DIVIDER
RCRA UPGRADE 1992
DRUM STAGING & DECANT BUILDING
600 SERIES TANK FARM
STORM DRAIN (UPGRADED 12/91)
TRUCK UNLOADING AREA "D"
FILTER BUILDING #5
RCRA - FLOOR DRAIN UPGRADE (8/90)
FIBERGLASS LINED SUMPS
TRUCK UNLOADING AREA "C"
CLOSED EAST SIDE TRENCH
CONTAINMENT WALLS (RCRA UPGRADE) 1989
H/R
TRENCH
OVERHANG
TRUCK UNLOADING AREA "F"
PROPERTY OF BURALAC CHEMICAL CO. BLOCK 2438 LOT 34
REACTORS
TRENCH
TRUCK UNLOADING AREA "B"
PROPERTY OF BENJAMIN MOORE INC. BLOCK 2438 LOT 34
MAINTANENCE WORKSHOP
TRENCHES
STORM DRAIN GRATE
RAIL SIDING (RCRA APPROVED UPGRADE 1990)
OPERATIONS OFFICE
FORMER 700-SERIES TANK FARM
PIT
103 SYSTEM
SUMP
TRUCK UNLOADING AREA "A"
WEIGHT STATION
LABORATORY
100-SERIES TANK FARM
EXISTING 100 SERIES CONTAINMENT WALL (RCRA APPROVED)
TRUCK UNLOADING AREA "E"
EXISTING 500 SERIES CONTAINMENT WALL
500-SERIES TANK FARM
TANKS 6A & 6B
EXISTING SUMP
CLOSED IN PLACE UNDERGROUND STORAGE TANK
GUARD HOUSE
WASTEWATER TREATMENT SUMP
INLET AND VALVE
RCRA UPGRADED CONTAINMENT WALL 10/91
LISTER AVENUE
LEGEND
FENCE
STRUCTURE WALL
CONTOUR LINE CONTOUR INTERVAL 1 FOOT
CONTAINMENT WALL
EXISTING CONTAINMENT WALLS STAY IN SERVICE
CLOSED CONTAINMENT WALLS OUT OF SERVICE
REMOVED/CLOSED TRENCH OR SUMP
DOWNSPOUTS FOR ROOF LEADERS
SUMP
UTILITY POLE
TANK / REACTOR
SCOPE OF WORK
A-D: DESLUDGED, TRIPLE RINSED, TV VIDEO TAPED WHERE POSSIBLE AND PRESSURE FILLED WITH 3500psi GROUT.
C-D: DESLUDGED, TRIPLE RINSED, TV VIDEO TAPED AND PRESSURE FILLED WITH CONCRETE.
D: DESLUDGED, TRIPLE RINSED AND FILLED WITH CONCRETE.
E: CLEANED, INSPECTED AND REMAINS OPEN.
F-G: CLEANED, INSPECTED, TV VIDEO TAPED AND APPROVED TO STAY IN SERVICE.
G: CLEANED, INSPECTED, TV VIDEO TAPED AND APPROVED TO STAY IN SERVICE.
H: DESLUDGED, TRIPLE RINSED AND FILLED WITH 3500 PSI GROUT.
I-J: REMOVED AND DISPOSED OF CLAY PIPING AND FILLED WITH CONCRETE.
K: CLEANED AND FILLED SUMP-LIKE GROUNDING STRUCTURES WITH CONCRETE
L: TEMPORARILY REPAIRED DUE TO TEMPERATURE CONSTRAINT. WORK TO BE COMPLETED IN THE SPRING.
M: CLEANED, EXAMINED AND NEW SUMP FORMED INSIDE EXISTING SUMP.
N,O,P: CLEANED, EXAMINED AND STAYS IN SERVICE.
Q: CLEANED, EXAMINED AND REPAIRS TO BE COMPLETED IN THE SPRING DUE TO TEMPERATURE CONSTRAINT.
R,S: CLEANED, EXAMINED AND STAYS IN SERVICE.
T: CLEANED, EXAMINED, SAMPLED AND CLOSED.
NOTE:
BOUNDARY SHOWN HEREON TAKEN FROM A MAP ENTITLED, "APPENDIX - 1, PROPERTY SURVEY AND SITE ELEVATIONS MAP OF BLOCK 2438, LOTS 16 & 37, DATED FEBRUARY 16, 1985, PREPARED BY RUSSELL S. BOOWELL, P.E. & L.S., N.J. LICENSE NO. 24568.
8/92 SFC DONOHUE FIELD UPDATE OF CONTAINMENTS & TRENCHES. DATA ACCUMULATED UP UNTIL 9/92.
0 5 10 15 20 30 40 60
SCALE 1" = 20'
ENVIRONMENT & INFRASTRUCTURE
SIGNATURE
DATE
REV. DATE DESCRIPTION DSN. BY APP. BY
PROJECT NO. 83677.000 SCALE AS SHOWN
DES. BY APP'VD 10/04/93
DSN. BY
CHK. BY
REV. BY
APP. BY
PROJECT CWM OF NEW JERSEY, INC REMEDIAL INVESTIGATION
SHEET TITLE FACILITY IMPROVEMENTS
CWM
SHEET OF
DRAWING NO.
SCHEDULE A


DSDB-S2
DSDB-S1
MW-3
HDMW-3
FP-S2
TRUCK-S5
TRUCK-S4
TRUCK-S6
TRUCK-S3
FP-S1
100-S3
100-S4
100-S2
700-S3
700-S2
TRUCK-S2
LAB-S1
100-S1
900-S1
GH-S1
ABUST-S1
GH-S2
900-S2
TRUCK-S1
MW-2
LISTER-S2
MW
LISTER AVENUE
LEGEND
NOTE:
SOIL & GROUNDWATER SAMPLING LOCATIONS
CWM
Chemical Waste Management





LEGEND

- APPROXIMATE PROPERTY LINE
- PROPERTY LINE
- EQUIPOTENTIAL CONTOUR LINE
  CONTOUR INTERVAL= 1 FT
- DIRECTION OF GROUNDWATER FLOW
- MW-3 — MONITORING WELL IDENTIFICATION
- MONITORING WELL LOCATION
- 6.24 — GROUNDWATER ELEVATION (MSL)
- A A' — CROSS SECTION LINE
- STRUCTURE WALL
- CONTAINMENT WALL
- TANK OR REACTOR
- UTILITY POLE

NOTE:

1. THE CWM OF NEW JERSEY, INC. FACILITY BOUNDARY SHOWN HEREON TAKEN FROM A MAP ENTITLED, "APPENDIX - 1, PROPERTY SURVEY AND SITE ELEVATIONS MAP OF BLOCK 2438, LOTS 19 & 31", DATED FEBRUARY 16, 1985, PREPARED BY RUSSELL S. BODWELL, P.E. & L.S., NEW JERSEY LICENSE NO. 8456.
2. ADJACENT PROPERTY LINES AND FACILITY FEATURES HAVE BEEN APPROXIMATED.
3. NO READING WAS OBTAINED FROM HDMW-2.
4. THE DESIGNATION OF THE HILTON DAV IS WELLS WERE CHANGED BY ADDING HD TO THE BEGINNING OF EACH MONITORING WELL DESIGNATION THIS WAS DONE TO AVOID CONFUSION WITH THE CWM MONITORING WELLS.
5. GROUNDWATER ELEVATIONS ARE BASED ON THE BENCHMARK FOUND IN PICLE NO. 31698
6. THE COMPOSITE PHREATIC SURFACE MAP WAS CONSTRUCTED FROM THE GROUNDWATER ELEVATIONS COLLECTED DURING THE REMEDIAL INVESTIGATION AND THE HISTORICAL INVESTIGATIONS CONDUCTED AT THE DIAMOND SHAMROCK CO. AND THE HILTON DAVIS,CO. PROPERTIES.

RUST ENVIRONMENT & INFRASTRUCTURE

SIGNATURE

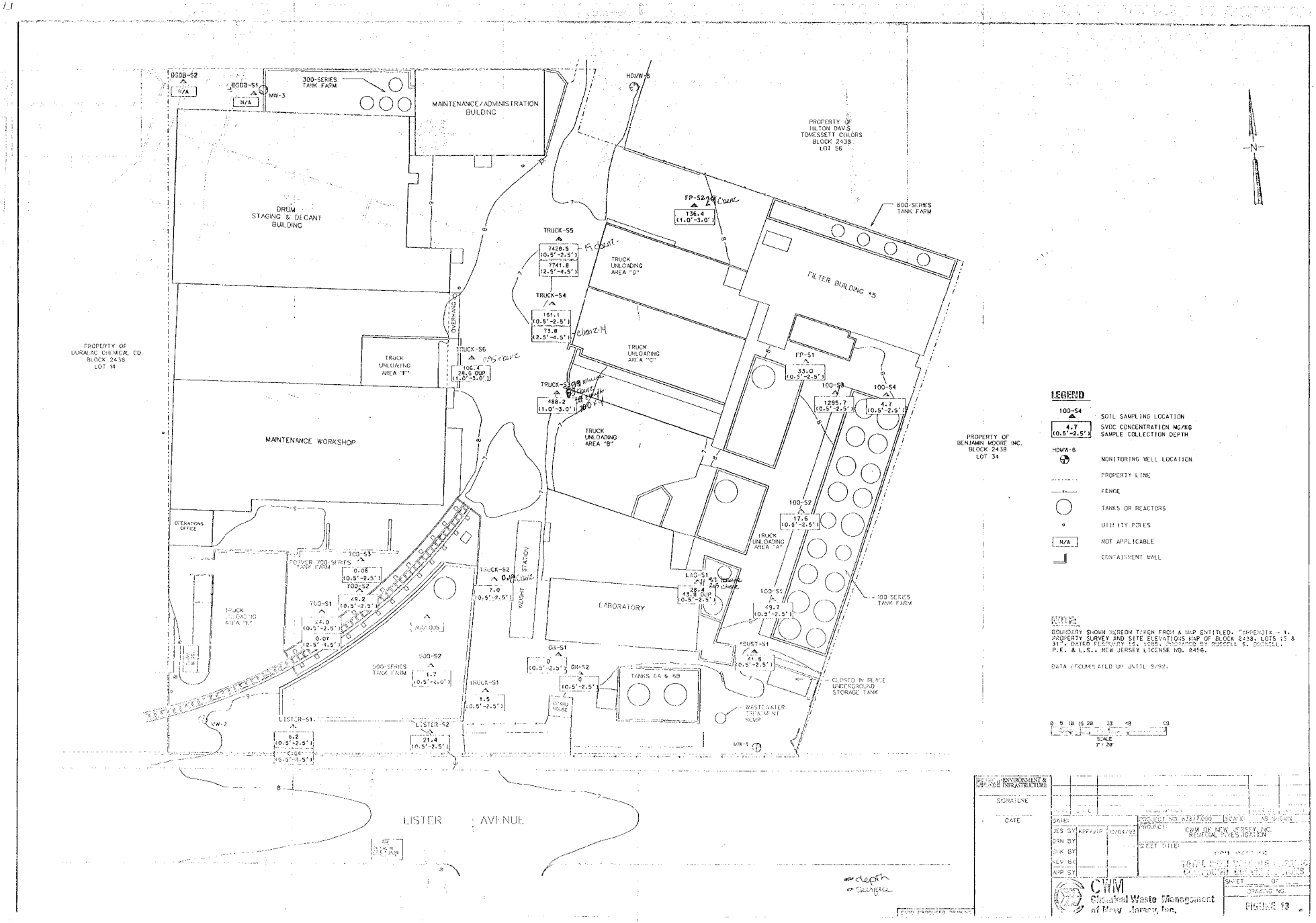
DATE

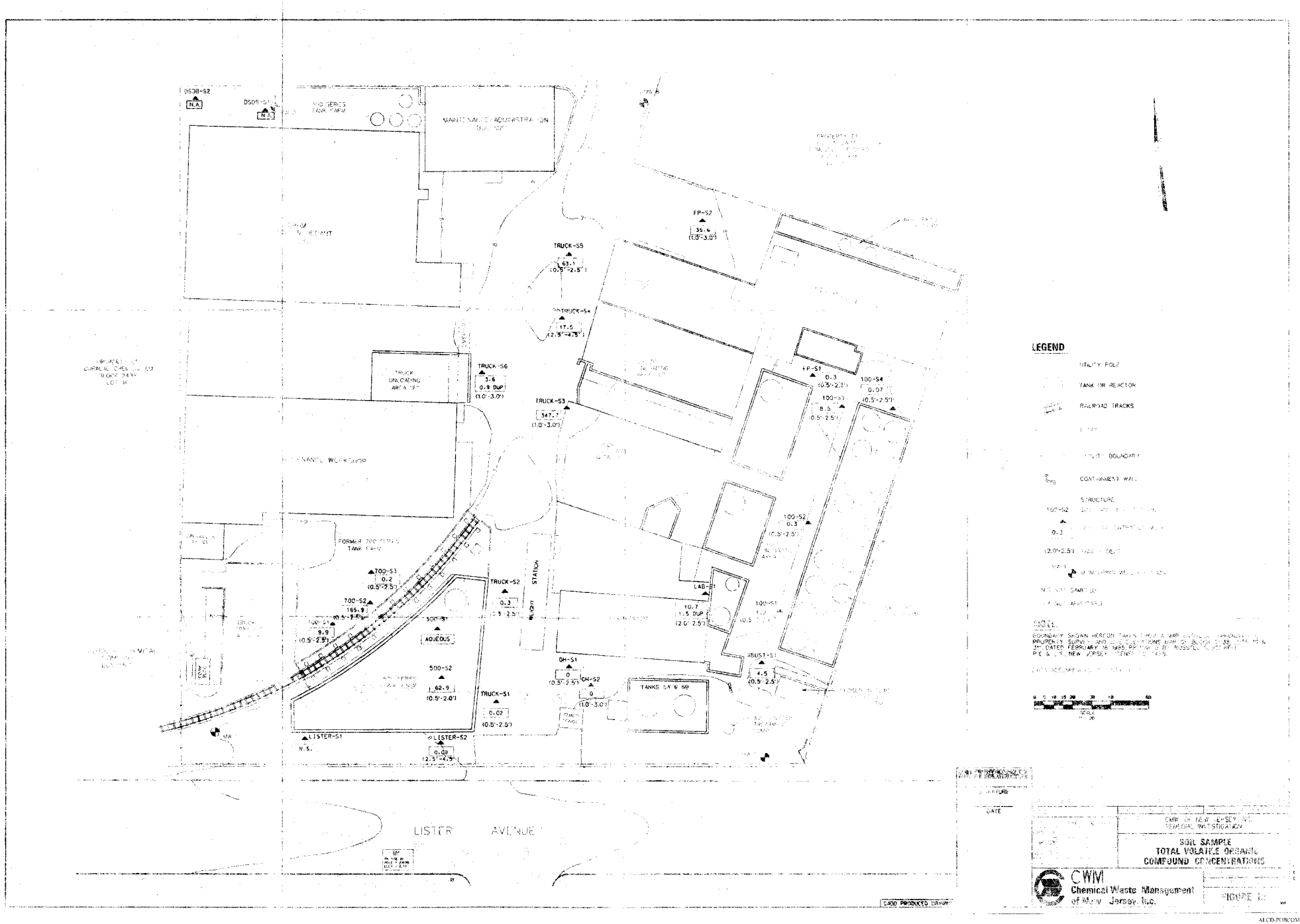
REV.	DATE	DESCRIPTION	DRN BY	APP BY

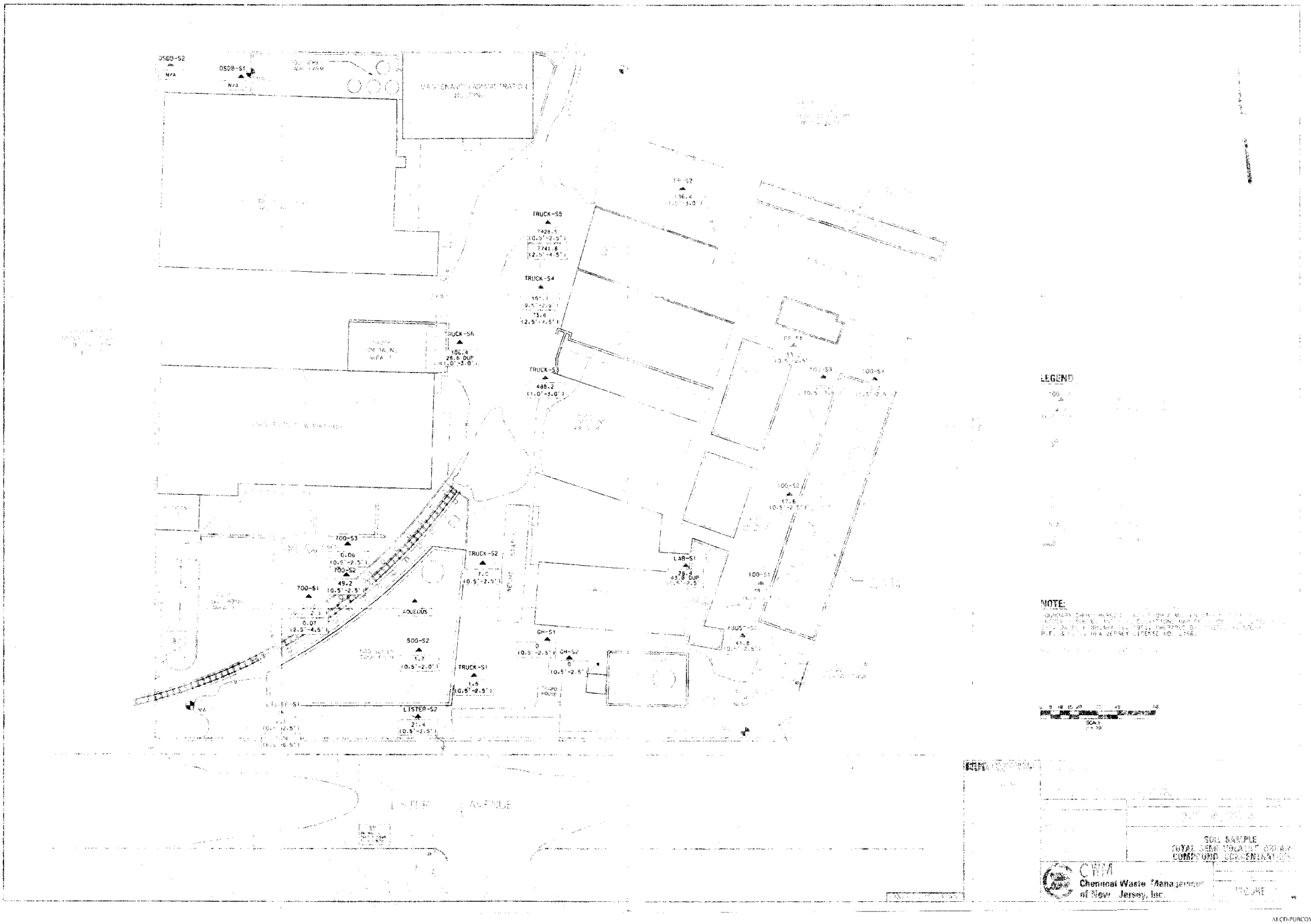
DATE:
PROJECT NO. 83877.000
SCALE: AS SHOWN
DES BY KPF/JTP 10/18/93
DRN BY
CHK BY
REV BY
APP BY
PROJECT: CWM OF NEW JERSEY, INC. REMEDIAL INVESTIGATION
SHEET TITLE: COMPOSITE PHREATIC SURFACE MAP
CWM
SHEET ____ OF ____

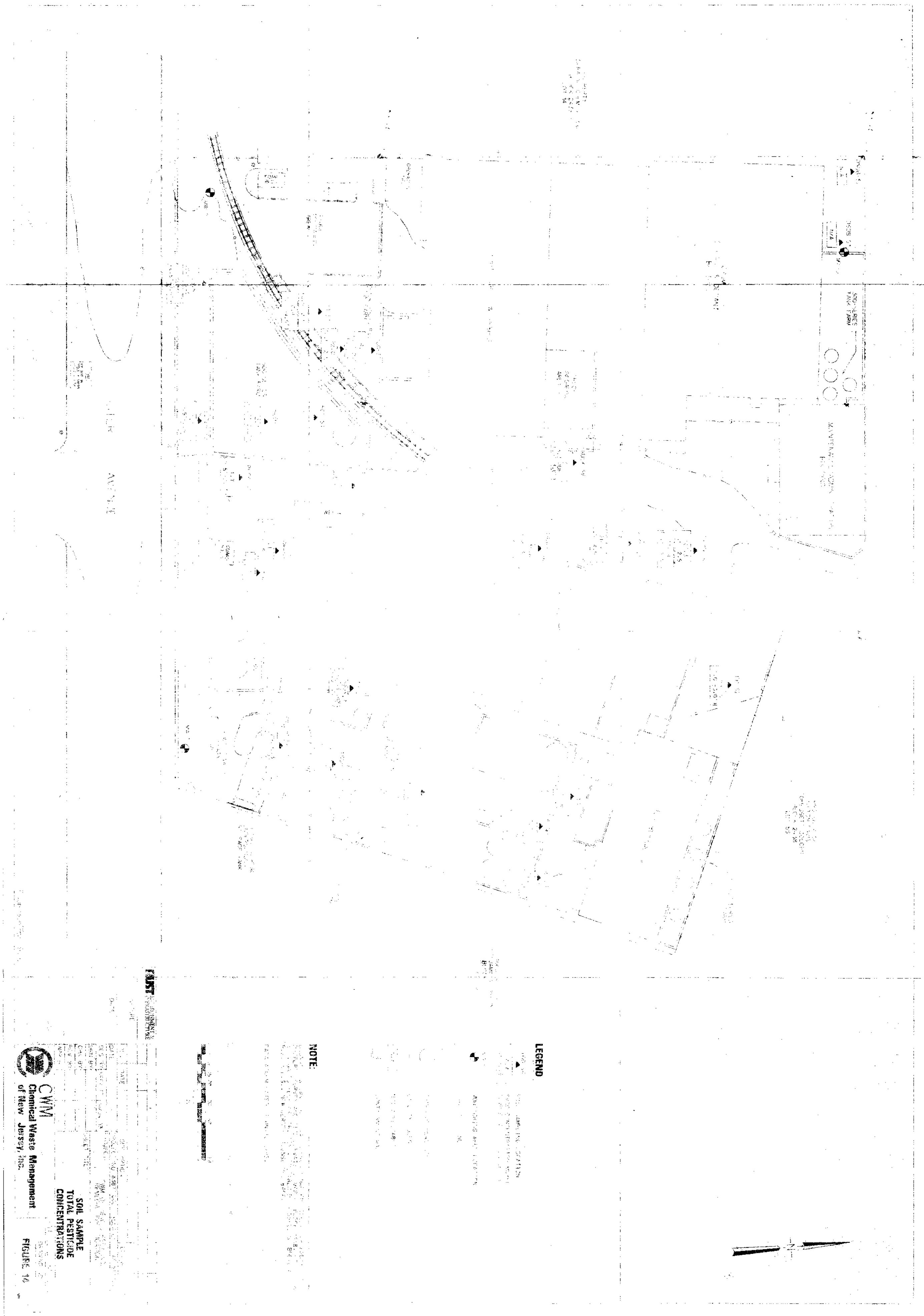
7A83877P02.DGN

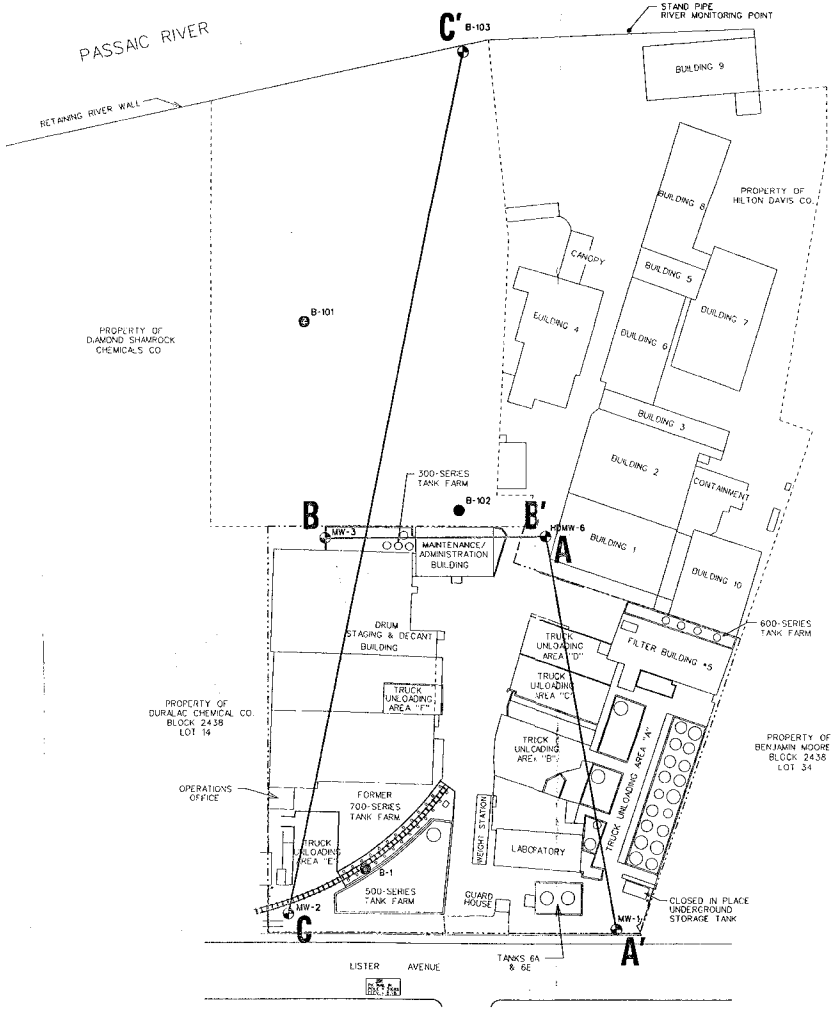
ALCD-PURCOM 0011033


MAINTENANCE/ADMINISTRATION BUILDING
300-SERIES TANK FARM
DRUM STAGING & DECANT BUILDING
MAINTENANCE WORKSHOP
OPERATIONS OFFICE
LABORATORY
FILTER BUILDING 15
600-SERIES TANK FARM
100-SERIES TANK FARM
TRUCK UNLOADING AREA "A"
TRUCK UNLOADING AREA "B"
TRUCK UNLOADING AREA "C"
TRUCK UNLOADING AREA "D"
TRUCK UNLOADING AREA "E"
TRUCK UNLOADING AREA "F"
TANKS 6A & 6B
CLOSED IN PLACE UNDERGROUND STORAGE TANK
WASTEWATER TREATMENT SUMP
WEIGHT STATION
OVERHEAD
PROPERTY OF DURALAC CHEMICAL CO. BLOCK 2438 LOT 14
PROPERTY OF HILTON DAVIS TOMESSETT COLORS BLOCK 2438 LOT 56
PROPERTY OF BENJAMIN MOORE INC. BLOCK 2438 LOT 34
LISTER AVENUE
LEGEND
SOIL SAMPLING LOCATION
SVOC CONCENTRATION MG/KG SAMPLE COLLECTION DEPTH
MONITORING WELL LOCATION
PROPERTY LINE
FENCE
TANKS OR REACTORS
UTILITY POLES
NOT APPLICABLE
CONTAINMENT WALL
NOTE:
BOUNDARY SHOWN HEREON TAKEN FROM A MAP ENTITLED, "APPENDIX - 1, PROPERTY SURVEY AND SITE ELEVATIONS MAP OF BLOCK 2438, LOTS 15 & 31", DATED FEBRUARY 16, 1996, PREPARED BY RUSSELL S. BOSWELL, P.E. & L.S., NEW JERSEY LICENSE NO. 8456.
DATA ACCUMULATED UP UNTIL 9/92.
SCALE 1" = 20'
ENVIRONMENT & INFRASTRUCTURE
SIGNATURE
DATE
CWM
Chemical Waste Management of New Jersey, Inc.
FIGURE 13


LEGEND
LISTER AVENUE
SOIL SAMPLE
TOTAL VOLATILE ORGANIC
COMPOUND CONCENTRATIONS
CWM
Chemical Waste Management
of New Jersey, Inc.


LEGEND
NOTE:
SOIL SAMPLE
CWM
Chemical Waste Management of New Jersey, Inc.
FIGURE


LEGEND
NOTE:
SOIL SAMPLE
TOTAL PESTICIDE
CONCENTRATIONS
CWM
Chemical Waste Management
of New Jersey Inc.
FIGURE 16



N

LEGEND

- APPROXIMATE PROPERTY LINE
- PROPERTY LINE
- B-103 — HISTORICAL SOIL BORING LOCATION
- MW-3 — MONITORING WELL LOCATION
- A — A' — CROSS SECTION LINE
- STRUCTURE WALL
- CONTAINMENT WALL
- TANK OR REACTOR
- UTILITY POLE

NOTE:

1. THE CWM OF NEW JERSEY, INC. FACILITY BOUNDARY SHOWN HEREON TAKEN FROM A MAP ENTITLED, "APPENDIX - 1, PROPERTY SURVEY AND SITE ELEVATIONS MAP OF BLOCK 2438, LOTS 19 & 31", DATED FEBRUARY 16, 1985, PREPARED BY RUSSELL S. BODWELL, P.E. & L.S., NEW JERSEY LICENSE NO. 8456.
2. ADJACENT PROPERTY LINES AND FACILITY FEATURES HAVE BEEN APPROXIMATED.

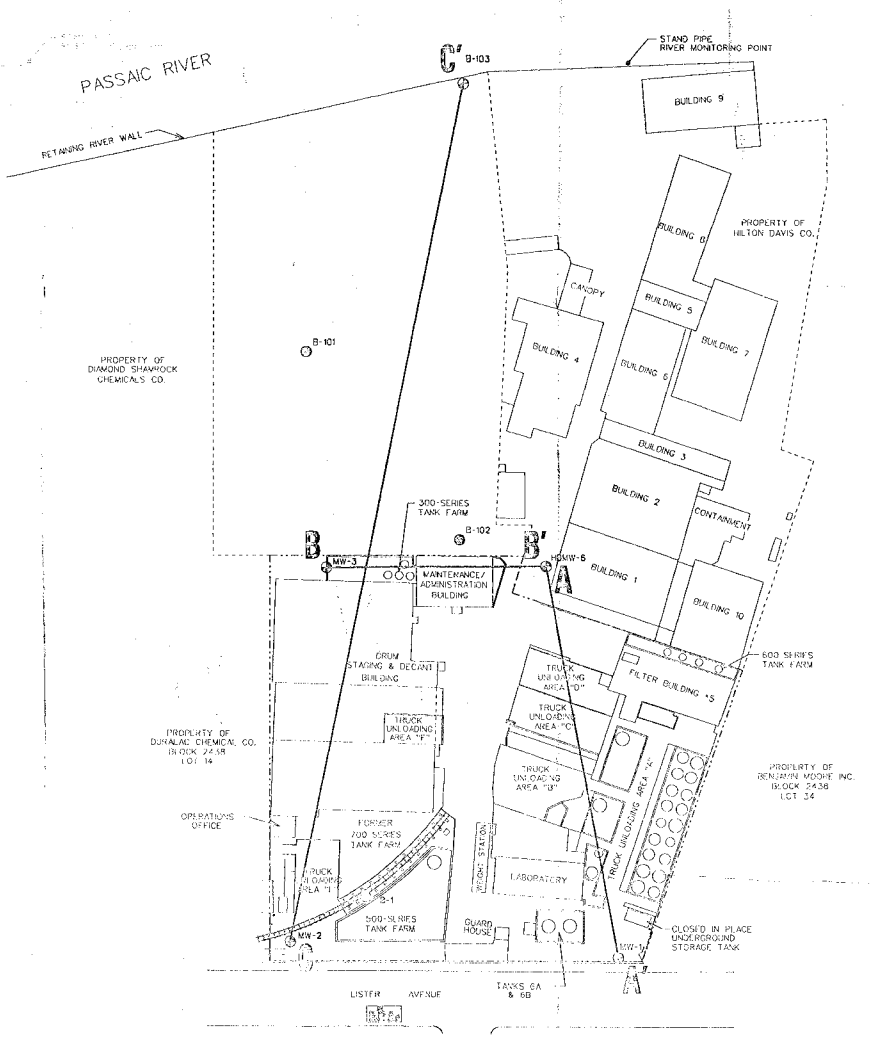
0 25 50 100 150
1" = 50'

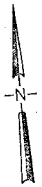
CADD PRODUCED DRAWING

ENVIRONMENT & INFRASTRUCTURE			
SIGNATURE	REV.	DATE	DESCRIPTION — DRN BY — APP BY
DATE	DATE		PROJECT NO. 83877.000 — SCALE: AS SHOWN
	DES BY: KPF/JJP 10/18/93		PROJECT: CWM OF NEW JERSEY, INC. REMEDIAL INVESTIGATION
	DRN BY:		SHEET TITLE: GEOLOGIC CROSS SECTION PLAN
	CHK BY:		
	REV BY:		
	APP BY:		
CWM Chemical Waste Management of New Jersey, Inc.			SHEET OF — DRAWING NO. FIGURE 6

C:\83877\83877P02.DGN

AUCD-PURCOM 001038





LEGEND

- APPROXIMATE PROPERTY LINE
- PROPERTY LINE
- B-103 — HISTORICAL SOIL BORING LOCATION
- MW-3 — MONITORING WELL LOCATION
- A A' — CROSS SECTION LINE
- STRUCTURE WALL
- CONTAINMENT WALL
- TANK OR REACTOR
- UTILITY POLE

NOTE:

1. THE CWM OF NEW JERSEY, INC. FACILITY BOUNDARY SHOWN HEREON TAKEN FROM A MAP ENTITLED, "APPENDIX - 1, PROPERTY SURVEY AND SITE ELEVATIONS MAP OF BLOCK 2438, LOTS 19 & 31", DATED FEBRUARY 16, 1985, PREPARED BY RUSSELL S. BODWELL, P.E. & L.S., NEW JERSEY LICENSE NO. 8456.
2. ADJACENT PROPERTY LINES AND FACILITY FEATURES HAVE BEEN APPROXIMATED.

0 25 50 100 150
1" = 50'

REV.	DATE	DESCRIPTION	DRN BY	APP BY

DATE:
DES BY: KPF/JTP 10/16/93
DRN BY:
CHK BY:
REV BY:
APP BY:

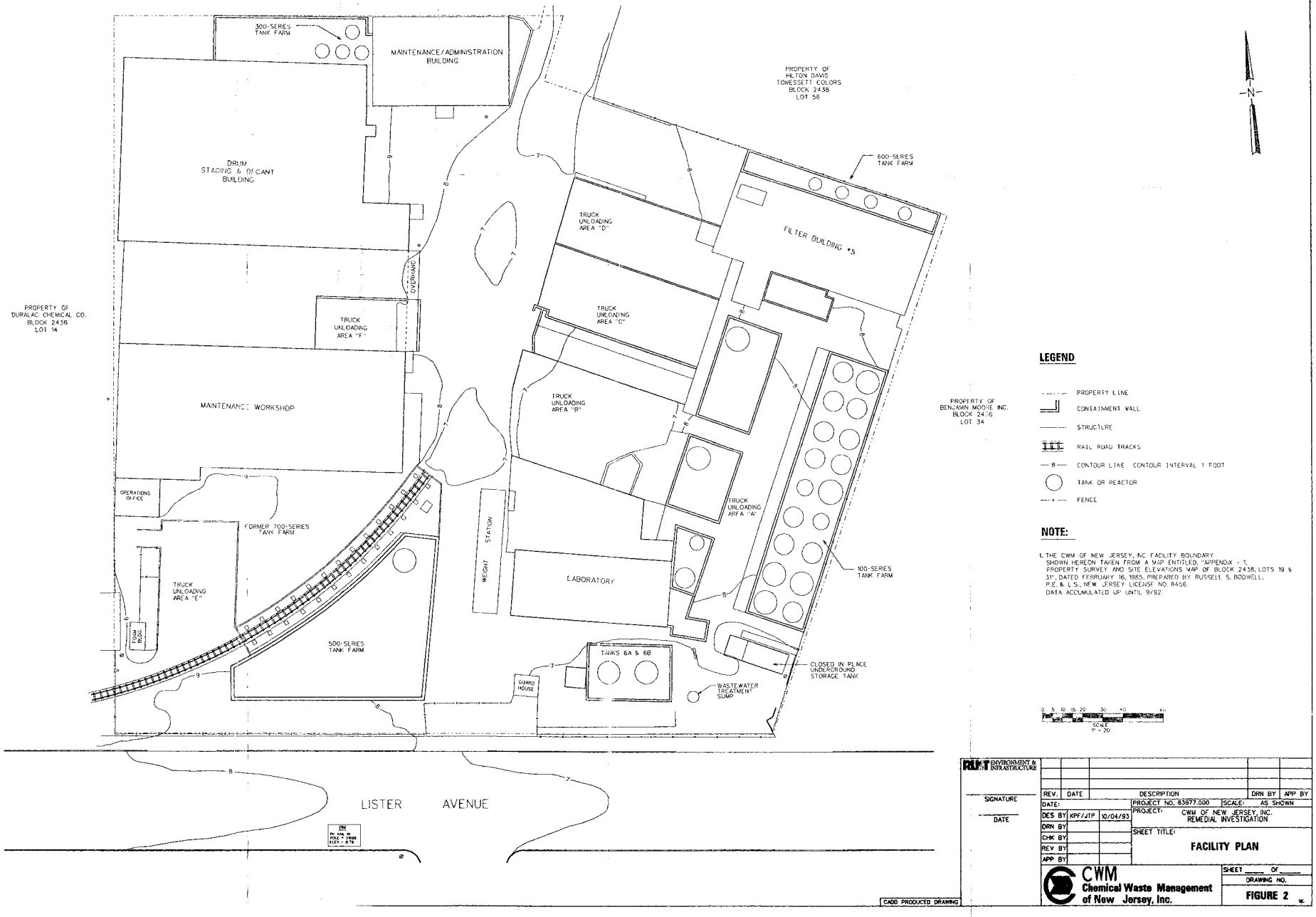
PROJECT NO. 53877.000 SCALE: AS SHOWN
PROJECT: CWM OF NEW JERSEY, INC. REMEDIAL INVESTIGATION
SHEET TITLE: GEOLOGIC CROSS SECTION PLAN
SHEET OF
DRAWING NO.

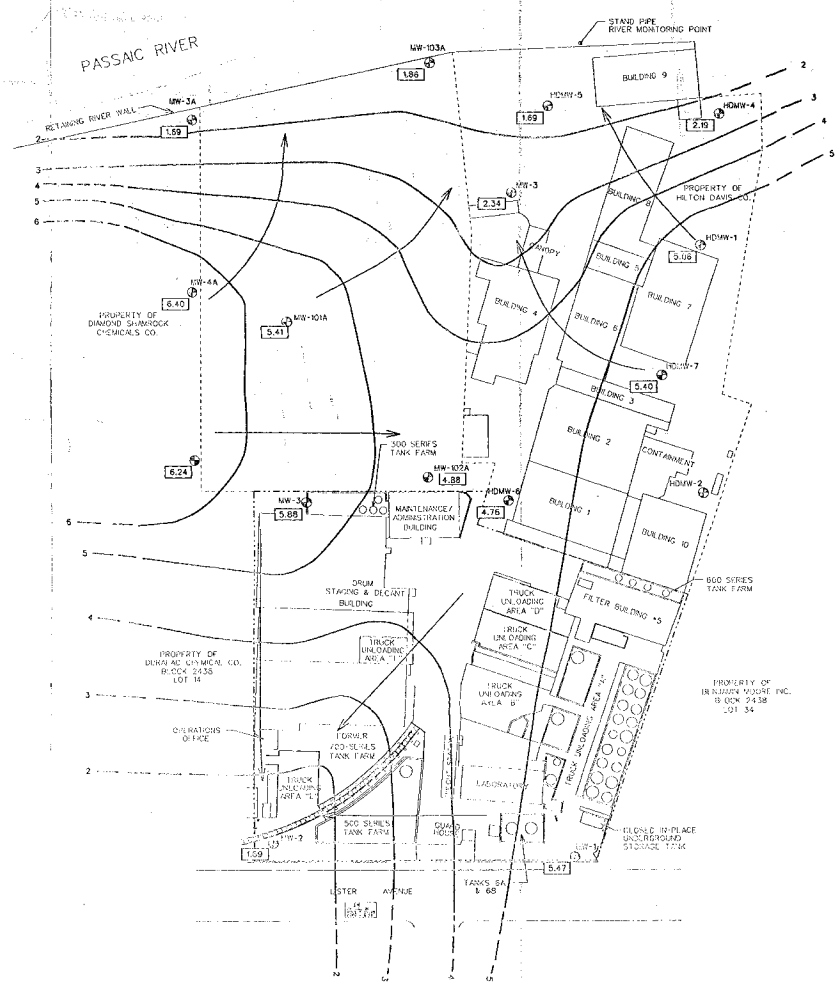
CWM Chemical Waste Management of New Jersey, Inc.

CADD PRODUCED DRAWING

53877A\53877P02.DGN

ALCD-PUBCOM_0011039


300-SERIES TANK FARM
MAINTENANCE/ADMINISTRATION BUILDING
PROPERTY OF HILTON DAVIS TOMESSETT COLORS BLOCK 2438 LOT 56
DRUM STAGING & DECANT BUILDING
600-SERIES TANK FARM
FILTER BUILDING #5
TRUCK UNLOADING AREA "D"
TRUCK UNLOADING AREA "C"
OVERPASS
PROPERTY OF DURALAC CHEMICAL CO. BLOCK 2436 LOT 14
TRUCK UNLOADING AREA "F"
MAINTENANCE WORKSHOP
TRUCK UNLOADING AREA "B"
PROPERTY OF BENJAMIN MOORE INC. BLOCK 2438 LOT 34
OPERATIONS OFFICE
FORMER 700-SERIES TANK FARM
TRUCK UNLOADING AREA "A"
WEIGHT STATION
LABORATORY
100-SERIES TANK FARM
TRUCK UNLOADING AREA "E"
FOAM BLDG.
500-SERIES TANK FARM
TANKS 6A & 6B
CLOSED IN PLACE UNDERGROUND STORAGE TANK
GUARD HOUSE
WASTEWATER TREATMENT SUMP
LISTER AVENUE
LEGEND
PROPERTY LINE
CONTAINMENT WALL
STRUCTURE
RAIL ROAD TRACKS
CONTOUR LINE CONTOUR INTERVAL 1 FOOT
TANK OR REACTOR
FENCE
NOTE:
1. THE CWM OF NEW JERSEY, INC. FACILITY BOUNDARY SHOWN HEREON TAKEN FROM A MAP ENTITLED, "APPENDIX - 1, PROPERTY SURVEY AND SITE ELEVATIONS MAP OF BLOCK 2438, LOTS 19 & 31", DATED FEBRUARY 16, 1985, PREPARED BY RUSSELL S. BODWELL, P.E. & L.S., NEW JERSEY LICENSE NO. 8456. DATA ACCUMULATED UP UNTIL 9/92.
SCALE 1" = 20'
RUST ENVIRONMENT & INFRASTRUCTURE
SIGNATURE
DATE
REV. DATE DESCRIPTION DRN BY APP BY
DATE: PROJECT NO. 83877.000 SCALE: AS SHOWN
DES BY KPF/JTP 10/04/93 PROJECT: CWM OF NEW JERSEY, INC. REMEDIAL INVESTIGATION
DRN BY
CHK BY
REV BY
APP BY
SHEET TITLE: FACILITY PLAN
CWM Chemical Waste Management of New Jersey, Inc.
SHEET ___ OF ___
DRAWING NO.
FIGURE 2
CADD PRODUCED DRAWING



LEGEND

- APPROXIMATE PROPERTY LINE
- PROPERTY LINE
- EQUIPOTENTIAL CONTOUR LINE CONTOUR INTERVAL = 1 FT
- DIRECTION OF GROUNDWATER FLOW
- MW-3 MONITORING WELL IDENTIFICATION
- MONITORING WELL LOCATION
- 5.24 GROUNDWATER ELEVATION (MSL)
- A A' CROSS SECTION LINE
- STRUCTURE WALL
- CONTAINMENT WALL
- TANK OR REACTOR
- UTILITY POLE

NOTE:

1. THE CWM OF NEW JERSEY, INC. FACILITY BOUNDARY SHOWN HEREON TAKEN FROM A MAP ENTITLED, "APPROX. - L PROPERTY SURVEY AND SITE ELEVATIONS MAP OF BLOCK 2438, LOTS 10 & 37, DATED FEBRUARY 16, 1985, PREPARED BY RUSSELL S. BODWELL, P.E. & L.S., NEW JERSEY LICENSE NO. 8456.
2. ADJACENT PROPERTY LINES AND FACILITY FEATURES WERE TAKEN APPROXIMATED.
3. NO SURVEYING WAS OBTAINED FROM NEARBY.
4. THE LOCATION OF THE HILTON DAVIS WELLS WERE CHANGED BY MOVING THEM TO THE BEGINNING OF EACH MONITORING WELL DESIGNATION. THIS WAS DONE TO AVOID CONFUSION WITH THE CWM MONITORING WELLS.
5. GROUNDWATER ELEVATIONS ARE BASED ON THE BENCHMARK FOUND IN POLE NO. 1-98
6. THE COMPOSITE PIEZOMETRIC SURFACE MAP WAS CONSTRUCTED FROM THE GROUNDWATER ELEVATIONS COLLECTED DURING THE REMEDIAL INVESTIGATION AND THE HISTORICAL INVESTIGATIONS CONDUCTED AT THE DIAMOND SHAMROCK CO. AND THE HILTON DAVIS PROPERTIES.

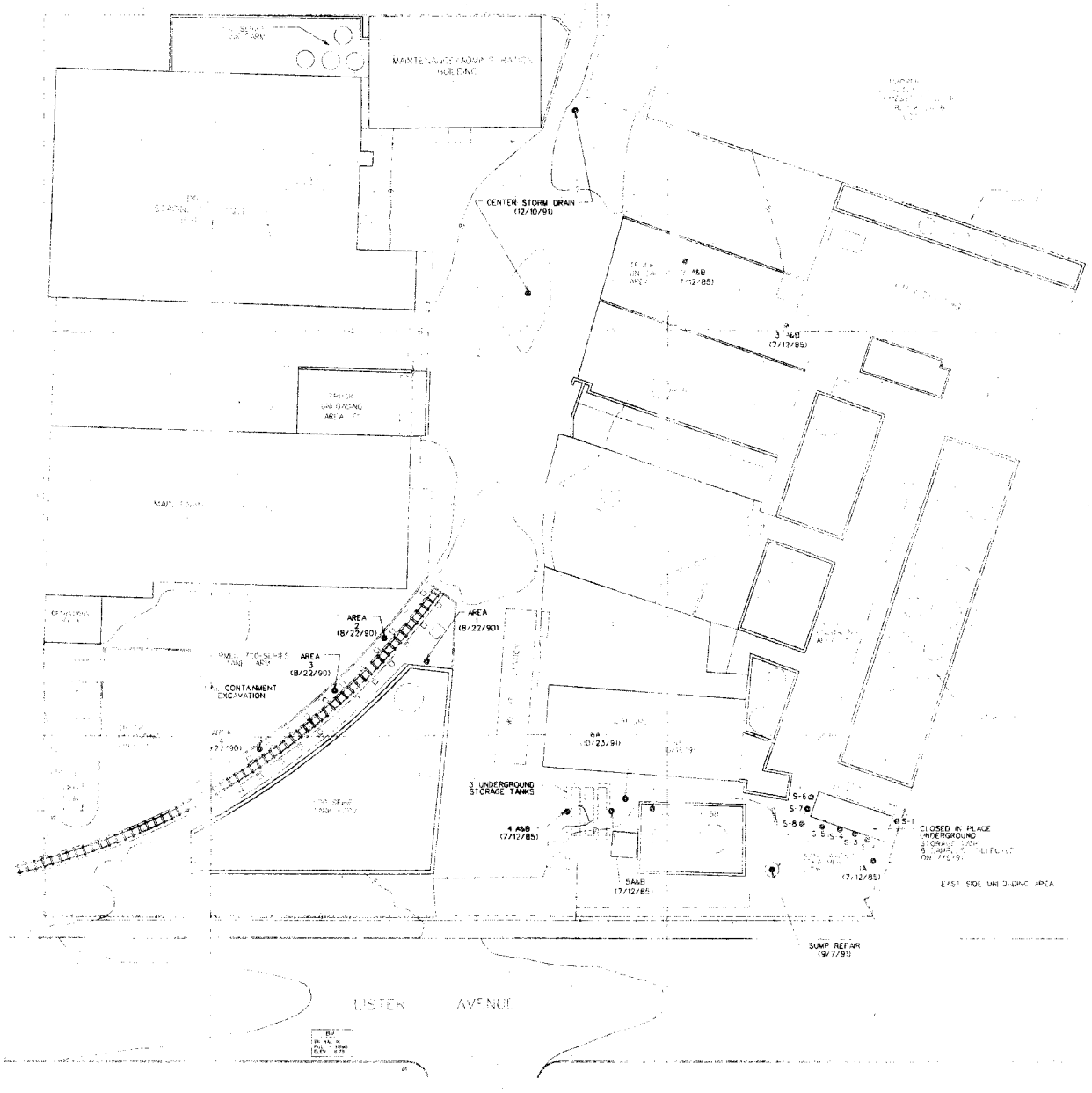
0 25 50 100 150
1" = 50'

ENVIRONMENTAL CONSTRUCTION
EXECUTIVE
DATE

REV.	DATE	DESCRIPTION	CHK BY
DRAFT			
DES BY	KPF/ATP	10/12/05	
DRN BY			
CHK BY			
REV BY			
APP BY			

PROJECT NO. 53577.000 SCALE AS SHOWN
CWM OF NEW JERSEY, INC.
REMEDIAL INVESTIGATION
SURFACE MAP
CWM Chemical Waste Management
SHEET 1 OF
DRAWING NO.
FIGURE 11

CADD PRODUCED DRAWING



LEGEND

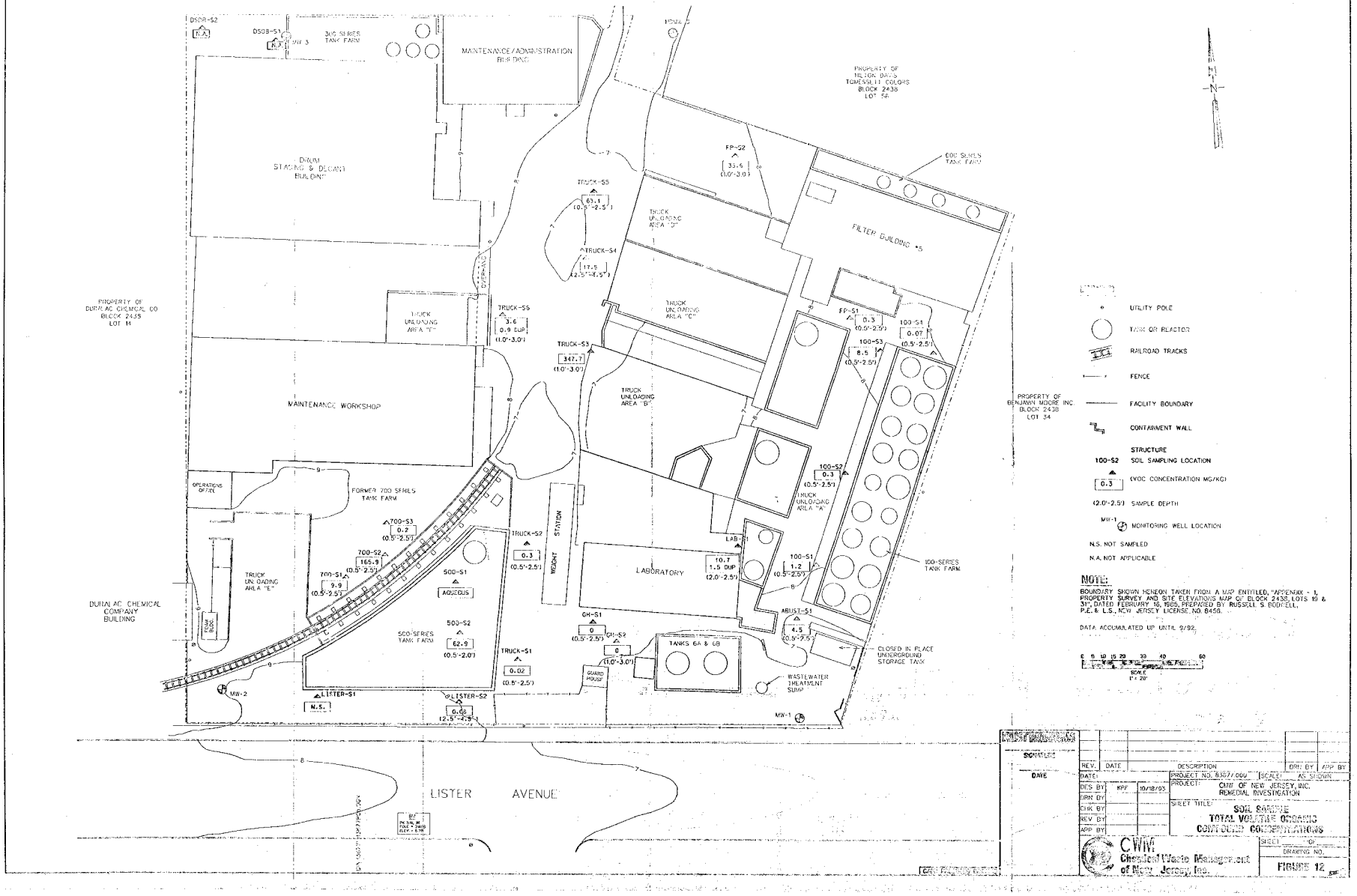
NOTE:

REV.	DATE	DESCRIPTION	DRN. BY	APP. BY
DATE:		PROJECT NO. 838/7300	SCALE: AS SHOWN	
DES. BY	KPF/JTP 10/04/93	PROJECT: CWM OF NEW JERSEY, INC. REMEDIAL INVESTIGATION		
DRN. BY		SHEET TITLE: HISTORICAL SAMPLING LOCATIONS		
CHK. BY				
REV. BY				
APP. BY				

CWM
Chemical Waste Management
of New Jersey, Inc.

SHEET

ACCD-PUBCOM_0011042


MAINTENANCE/ADMINISTRATION BUILDING
DRUM STAGING & DECANT BUILDING
300 SERIES TANK FARM
MAINTENANCE WORKSHOP
FILTER BUILDING #5
TRUCK UNLOADING AREA "A"
TRUCK UNLOADING AREA "B"
TRUCK UNLOADING AREA "C"
TRUCK UNLOADING AREA "D"
TRUCK UNLOADING AREA "E"
TRUCK UNLOADING AREA "F"
FORMER 700 SERIES TANK FARM
700 SERIES TANK FARM
500 SERIES TANK FARM
100-SERIES TANK FARM
LABORATORY
TANKS 6A & 6B
CLOSED IN PLACE UNDERGROUND STORAGE TANK
WASTEWATER TREATMENT SUMP
WEIGHT STATION
GUARD HOUSE
OPERATIONS OFFICE
DURALAC CHEMICAL COMPANY BUILDING
PROPERTY OF DURALAC CHEMICAL CO BLOCK 2439 LOT 14
PROPERTY OF BENJAMIN MOORE INC. BLOCK 2430 LOT 34
PROPERTY OF NELSON DAVIS TOMESSETTI COLORS BLOCK 2438 LOT 58
LISTER AVENUE
UTILITY POLE
TANK OR REACTOR
RAILROAD TRACKS
FENCE
FACILITY BOUNDARY
CONTAINMENT WALL
STRUCTURE
SOIL SAMPLING LOCATION
(VOC CONCENTRATION MG/KG)
SAMPLE DEPTH
MONITORING WELL LOCATION
N.S. NOT SAMPLED
N.A. NOT APPLICABLE
NOTE:
DATA ACCUMULATED UP UNTIL 9/92.
SCALE 1" = 20'
SOIL SAMPLE TOTAL VOLATILE ORGANIC CONCENTRATIONS
CWM Chemical Waste Management of New Jersey Inc.
FIGURE 12